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Analysis of the 1980 National Survey of Fishing, Hunting, and
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Report No. 1

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Identifying and Describing Segments of Consumptive Users of Fish and Wildlife in the United States

Volume VI: U.S. Fish and
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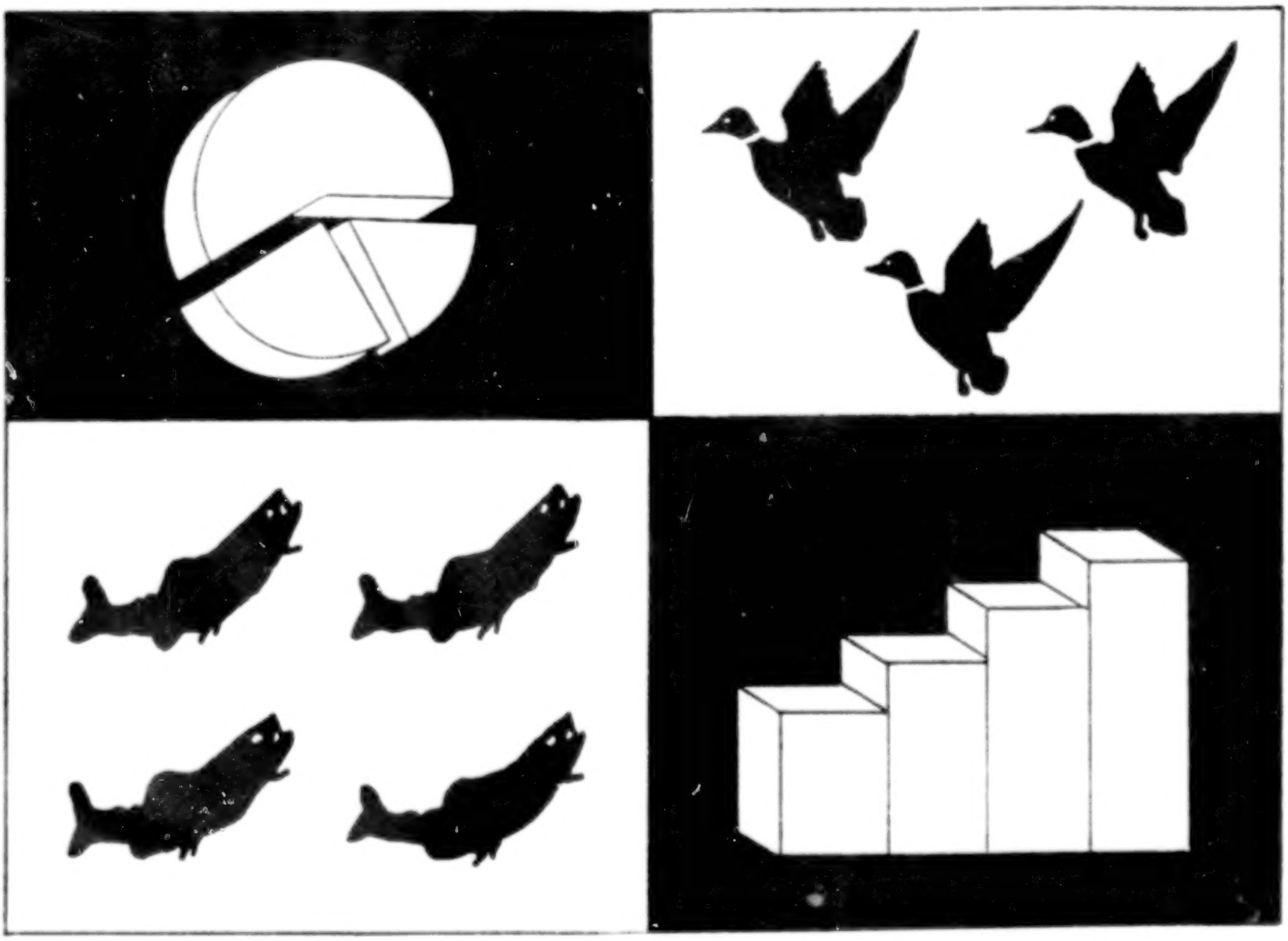

ANALYSIS OF THE 1980 NATIONAL SURVEY OF FISHING, HUNTING, AND WILDLIFE-ASSOCIATED RECREATION

Report No.

1. Identifying and Describing Segments of Consumptive Users of Fish and Wildlife in the United States
    - Volumes I-VII correspond to U.S. Fish and Wildlife Service Regions I-VII. They consist of selected sections of the larger, complete report. Each volume consists of a national summary, analysis of a given Region, and a selected State within that region.
2. Dynamic Aspects of the American Sport Hunting Population
3. An Analysis of the Overlap in Participation of Consumptive and Nonconsumptive Wildlife Users
4. Recreational Use of Public vs. Privately Owned Lands for Hunting

This series of reports was prepared to supplement the data reported in The 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. Topics for analysis were suggested by the International Association of Fish and Wildlife Agencies. The views and conclusions expressed here are the authors' and not necessarily those of the U.S. Fish and Wildlife Service.

ANALYSIS OF THE 1980 NATIONAL SURVEY OF FISHING, HUNTING AND WILDLIFE-ASSOCIATED RECREATION

REPORT NO. 1

IDENTIFYING AND DESCRIBING SEGMENTS OF CONSUMPTIVE USERS OF FISH AND WILDLIFE IN THE UNITED STATES

VOLUME VI
U.S. FISH AND WILDLIFE SERVICE
REGION VI

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May 1984

Volumes I-VII consist of selected sections of the larger, complete report. Each consists of a national summary, analysis of a given Region, and a selected State within that region.

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INTRODUCTION

One of the most difficult tasks facing fish and wildlife managers in the United States is to maintain viable fish and wildlife populations while providing opportunities to meet the recreational demands of the public. Meeting this challenge requires an understanding of not only fish and wildlife resources (i.e., biological information) but also the preferences, attitudes and behaviors of the recreationist (i.e., social information).

Since the turn of the century the role of social information in decision making has increased in importance. As recreational preferences have changed, so have management approaches to meeting them. Early approaches emphasized that "success" or the amount of game or fish "bagged" was an accurate measure of hunting and fishing benefits. Implicit in this approach was the notion that obtaining food was the primary motive of hunters and fishermen. Under those circumstances, wildlife managers focused their efforts on increasing numbers of fish and game available for harvest believing that with increased numbers of fish and game, increases in benefits from recreation would result (Hendee 1974).

An extension of the "game bagged" notion was what can be called the "days afield" concept. Under this approach emphasis was still on providing fish and game, however, it was proposed that the way to increase benefits from hunting and fishing was to increase the number of days of recreation that pursuing fish and game provided (Crissey 1971). It assumed that benefits to sportsmen were constant, regardless of success or quality of the experience. This notion also suggested that the most value occurred where the greatest number of sportsmen were found. Hendee (1974)

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suggested that management practices based on this concept might result in crowded, perhaps unsafe hunting and fishing conditions. Such an approach could also lead to management for the types of recreation that a majority of recreationists would engage in, paying less attention to the preference of other user groups.

Recognizing the shortcomings of these approaches, writings in the 1960's and 1970's emphasized two fundamental ideas that have served as a foundation for subsequent views of recreational benefits and management of fish and wildlife related recreation.

The first suggests that there are a wide variety of satisfactions and benefits which are derived from hunting and fishing experiences, and that these diverse satisfactions and benefits are the real product of game management (e.g., Brown et. al 1973, Driver and Tocher 1970, Hendee 1974, Wagar 1966). For example, research showed that while success is definitely a part of the enjoyment or satisfaction derived from hunting and fishing, other aspects of the experience are also important, such as being outdoors, being with friends or family, and being engaged in the challenge of stalking game (e.g., Kennedy 1974, More 1973, Potter et al. 1973). In employing this concept, managers have been encouraged to manage fish and wildlife resources to provide opportunity for a variety of satisfactions (Hendee 1974).

The second key finding emphasized that there is no "typical" or "average" sportsman. Instead, there are many sportsmen who receive different satisfactions, require different resource settings for their experiences, and require different types of management approaches. Though this was documented in a study of campers (Shafer 1969), it has since been shown in studies of hunters and fishermen (e.g., Potter et al 1973, Hautaluoma and Brown 1978, Buchanan et al., 1982). It is now recognized that a major weakness of many studies of sportsmen has been the tendency to "homogenize" groups, thus neglecting information on characteristics of sportsmen subgroups (Bryan 1979, Applegate 1977).

For managers, this finding has emphasized the need to recognize the diverse and potentially conflicting preferences of the users they serve when attempting to manage and allocate the recreational resource in an equitable way. Several management schemes have been offered to assist managers in meeting this goal.

For example, Bryan (1977) has suggested that managers recognize the diversity of recreational fishermen segments according to their degree of resource and technique specialization. He offers descriptions of the type of management preferences held by each group which could aid managers in meeting demand by these groups. Another broader approach to characterizing users is the Recreation Opportunity Spectrum which is currently used by the USDA Forest Service and the USDI Bureau of Land Management to aid in assessing recreation supply and demand. As commonly applied, this approach identifies six broad classes of recreational opportunities ranging from primitive to modern-urban, each unique in the combination of recreation activities, settings, and probable experiences provided (Driver and Brown 1978; Clark and Stankey 1979; Buist and Hoots 1982). The applicability of the approach specifically to fish and wildlife related recreation has been described by Brown (1982).

Though the notion of managing for a distinct user group to produce opportunity for a "diversity of satisfactions" is a viable conceptual approach, application of this concept has occurred slowly. Barriers to implementation of this concept are varied. However, one which is prominant and is the focus of this study is the availability of social information concerning hunter and fishermen groups. The 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (NSFHWAR) presents that type of information. Information on user groups is presented in the following sections, and suggestions are made on how this information might be used.

This study presents results using an existing data source, the 1980 National Survey of Fishing, Hunting and Wildlife-Associated Recreation. Data in the study allowed for characterization of user groups by type of activity (e.g. big game hunters, small game hunters, freshwater fishermen, saltwater fishermen), species sought (e.g., deer hunters, elk hunters, bass fishermen, trout fishermen), and special equipment used (e.g., bow and arrow hunters, spear fishermen) (see Table 1 for a more complete list of user groups). Geographic breakdowns of data included national, regional and state level analysis.

The specific study objectives were to produce statistical summaries which:

1. Describe the hunting participation patterns, characteristics and expenditures of several segments of hunters. These segments are identified on the basis of game hunted and weapons used.
2. Describe the participation patterns, characteristics, and expenditures of several fishermen segments. Fishermen segments are identified on the basis of type of water fished, species pursued, and method of fishing.
3. Compare sportsman and nonsportsman publics on socioeconomic characteristics.[1]

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[1] Sportsmen have been defined as those who either hunt or fish. This analysis does not include comparisons between sportsmen groups who are also non-consumptive users. That is the subject of a separate U.S. Fish and Wildlife Service study.

Table 1. User segments and descriptive variables described nationally and by region[a].

User segments	Descriptive variables
Sportsmen Nonsportsmen	Age Marital status Sex Education Population of location growing up Employed (yes/no) Race Location of residence (rural/urban)
Big game hunters Small game hunters Migratory bird Other game hunters	Days hunting by region Number of hunting trips by region Age of introduction to hunting Years of hunting experience Reasons for hunting Days hunting on public land Expenditures for travel, access, and equipment
Deer hunters Elk hunters Antelope hunters Moose hunters Bear hunters Turkey hunters Mountain goat hunters Mountain sheep hunters Alaska big game hunters Hawaii big game hunters Rabbit hunters Quail hunters Grouse hunters Chuckar hunters Squirrel hunters Pheasant hunters Alaska small game hunters Hawaii small game hunters Goose hunters Duck hunters Coot, rail hunters Woodcock hunters Dove hunters Pigeon hunters Alaska migratory bird hunters Hawaii migratory bird hunters	Days hunting--total and by region Age of introduction to hunting Years of hunting experience Reasons for hunting

Table 1. Continued.

User segments	Descriptive variables
Crow hunters	
Woodchuck hunters	
Raccoon hunters	
Fox hunters	
Coyote hunters	
Alaska fur hunters	
Bow hunters	Days hunting big game, small game, migratory birds and other game
Muzzle loader hunters	Age of introduction to hunting
Pistol hunters	Years of hunting experience
Great Lakes fishermen	Days fishing by region
Freshwater fishermen	Number of fishing trips--total and regional
Saltwater fishermen	Age of introduction to fishing
	Years of fishing experience
	Fishing locations
	Expenditures for travel, equipment and access
Bass fishermen	Days fishing--total and by region
Pan fish fishermen	Age of introduction to fishing
Catfish fishermen	Years of fishing experience
Walleye fishermen	Fishing locations
Pike fishermen	
Trout fishermen	
Salmon fishermen	
Rockfish (striped bass) fishermen	
Spear fishermen	Days of participation
Net fishermen	Age of introduction to fishing
Ice fishermen	Years of fishing experience
Bow fishermen	
Gigging fishermen	

[a] U.S. Fish and Wildlife Service Regions, see Figure 1.

METHODS

U.S. Fish and Wildlife Service Study

The 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, conducted by the U.S. Fish and Wildlife Service and U.S. Bureau of the Census, is the sixth in a continuing series of surveys conducted every five years since 1955 (U.S. Fish and Wildlife Service and U.S. Bureau of the Census 1982), and thus represents one of the oldest and most comprehensive continuous recreation surveys in the United States. Information gathered in the first four surveys focused on number of participants, days of hunting participation, and expenditures for hunting and fishing activities. The 1975 survey was unlike the previous surveys in that individual reports for each of the 50 states were produced for the first time, and mail questionnaires, versus in-person interviews, were used to gather data. The 1980 survey combined elements from the two previous surveys to become the most detailed investigation of American users of fish and wildlife resoruces ever conducted. About 34,000 individuals were asked to provide information regarding their hunting, fishing, and nonconsumptive wildlife-related activities in 1980 (U.S. Fish and Wildlife Service and U.S. Bureau of the Census 1982).

One unique aspect of the 1980 survey was that state and federal wildlife agencies, fish and wildlife researchers, and natural resource conservation organizations were contacted and provided input on how to increase the utility of the data being gathered. Through this process, special information "needs" were identified and specific analysis objectives or project areas were identified (U.S. Fish and Wildlife Service 1982).

The 1980 National Survey was implemented by the U.S. Bureau of the Census and involved two phases. In the first phase, completed in January 1981, a sample of 116,025 households nationwide was screened, mostly by telephone, to determine who in the household had hunted, fished, or participated in some nonconsumptive wildlife-associated activity. Information about household members 6 years old and older was obtained and potential participants for phase two were identified. A 95 percent response rate was achieved (U.S. Fish and Wildlife Service and U.S. Bureau of the Census 1982).

The second phase of the survey consisted of detailed in-person interviews conducted during spring 1981 with samples of hunters, fishermen, and nonconsumptive users identified in the screening phase. Participants in this phase were limited to those at least 16 years old. A total of 30,300 hunters and fishermen responded to a 50 page questionnaire and 6,000 nonconsumptive users answered a 22-page questionnaire. A sample of those who hunted or fished, and engaged in nonconsumptive activities were interviewed with both questionnaires. A response rate of approximately 90 percent for fishing and hunting and 95 percent for nonconsumptive users also was achieved for these groups respectively (U.S. Fish and Wildlife Service and U.S. Bureau of the Census 1982).

Analysis to Characterize User Segments

Prior to data analysis, computer tapes containing the 1980 survey data were obtained from the U.S. Fish and Wildlife Service. Initial error correction and "cleanup" of the data had been done by the U.S. Bureau of Census. A weight, based on an individual's likelihood of selection, had been assigned to each respondent, thus making the results representative of the entire population of people engaging in hunting, fishing, and other wildlife-related recreation activities (U.S. Fish and Wildlife Service and U.S. Bureau of the Census 1982).

Sportsmen user segments used in this study had been previously identified by the Fish and Wildlife Service (1982) and were based on (1) whether a person did or did not do any hunting or fishing, (2) locations fished, (3) species pursued, and (4) methods used in hunting or fishing. In total there were approximately 38 non-mutually exclusive hunter segments and 23 non-mutually exclusive fishermen groups in the proposed classification schemes (see Table 1). Summaries of segments were made at national, regional (U.S. Fish and Wildlife Service Regions, see Fig. 1), and selected state levels.

National and regional level analysis.

Variables used in describing hunter and fishermen user groups are listed in Table 1. Over 300 descriptive variables were identified to be included in this phase of the analysis, though not all variables were used in describing every segment identified. Those variables chosen for describing each group were chosen primarily on the basis of whether or not the descriptive variable would add information pertinent to understanding that group. A computer program produced the desired output on characteristics of user segments for seven U.S. Fish and Wildlife Regions and on a national level.

State level analysis.

The state level analysis differed from the national and regional levels in that only a few select states were chosen for analysis, and the state level analysis was more in-depth for the segments identified. The selected states were chosen to represent geographic and species diversity,

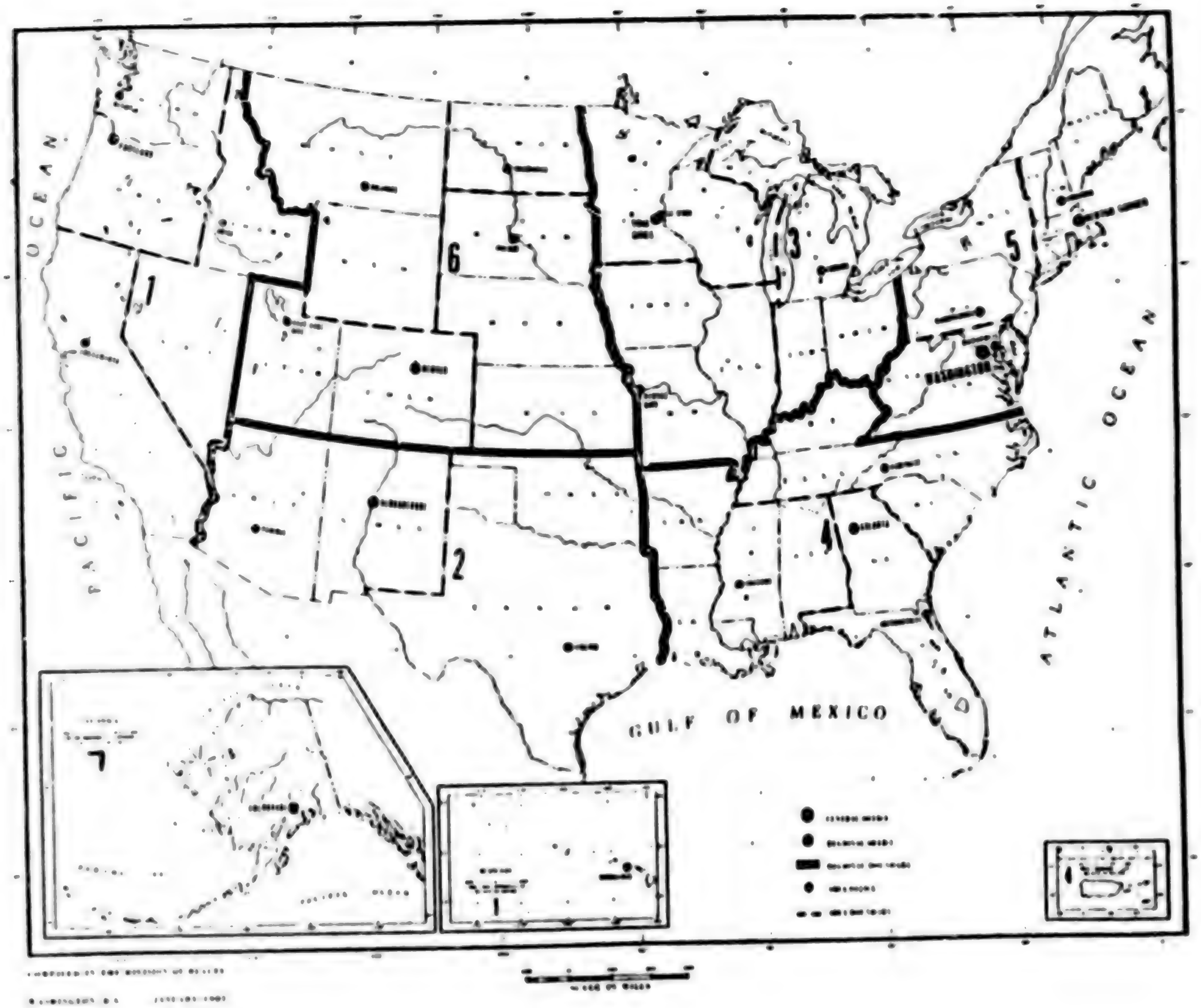

Figure 1. U.S. Fish and Wildlife Service Regions.

and included Alaska, California, Louisiana, Michigan, Montana, New York, and Oregon.

The user segment groups described for each state are listed in Table 2. User segments for a particular state were initially chosen for analysis on the basis of whether or not the segments were likely to exist within that state in sufficient numbers to allow reliable inferences from the data. Fish and wildlife managers from each of the seven states were contacted for input concerning user segments chosen for their specific state. In some cases additional segments were identified for analysis and a few segments were deleted. The descriptive variables to be used for each user segment are also listed in Table 2.

Sportsmen, nonsportsmen comparisons.

Data used in the sportsmen-nonsportsmen analysis came from information obtained during the screening phase of the 1980 National Survey. Household members 6 years old and older were assigned to sportsmen or nonsportsmen groups depending on whether or not they had done any hunting or fishing in 1980, and information was obtained on socio-demographic descriptive variables for the two groups at the national, regional, and selected state levels.

Delimitations of the study

For the purpose of this study, the following delimitations were set forth:

1. Summaries of hunter and fishermen segments were made on persons in the U.S. population who were 16 years old and older, and sportsmen/nonsportsmen comparisons were made on persons at least 6 years old and older.

Table 2. User segments and descriptive variables used for selected states[a].

User segments[b]	Descriptive variables
Sportsmen Nonsportsmen	Age Marital Status Sex Education Population growing up Employed (yes/no) Race Location of residence (rural/urban)
Big game hunters Small game hunters Migratory bird hunters Other game hunters	Age of introduction to hunting Years of hunting experience Membership in conservation and sportsmen organizations Reasons for hunting Days hunting on public land Hunting participation by state regions[c] Travel-related expenses Access-related expenses
Deer hunters Elk hunters Moose hunters[d] Mountain goat hunters[d] Dall sheep hunters[d] Caribou hunters[d] Grizzly bear hunters[d] Black bear hunters Duck hunters Goose hunters Pheasant hunters Grouse hunters	Days hunting--regionally[c] Number bagged per day--by region Age of introduction to hunting Years of hunting experience Reasons for hunting
Bow hunters Muzzle loader hunters	Days hunting big game, small game, migratory birds and other game Expenditures for special equipment Age of introduction to hunting Years of hunting experience Membership in conservation and sportsmen organizations Reasons for hunting

Table 2. Continued.

User segments[b]	Descriptive variables
Freshwater fishermen Saltwater fishermen Great Lakes fishermen	Age of introduction to fishing Years of fishing participation Membership in conservation and sportsmen organizations Fishing locations Fishing participation by state regions Travel-related expenses Access-related expenses
Trout fishermen Bass fishermen Walleye fishermen Pike fishermen Pan fish fishermen Salmon/steelhead fishermen Grayling fishermen[c] Great Lakes Trout fishermen Great Lakes Walleye fishermen Great Lakes Pike fishermen Great Lakes Pickerel fishermen Great Lakes Salmon/Steelhead fishermen Saltwater Salmon fishermen Saltwater Steelhead fishermen	Days fishing--regionally Number caught per day--by region Age of introduction to fishing Years of fishing experience
Ice fishermen	Days of participation Expenditures for special equipment Age of introduction to fishing Years of fishing experience Membership in conservation and sportsmen organizations
Large reservoir anglers Small reservoir anglers Natural lakes/ponds anglers River/stream anglers	Other locations fished

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[a] State include: Alaska, California, Louisiana, Michigan, Montana, New York and Oregon.

[b] Some segments (such as Great Lakes anglers) were not described for every state.

[c] See individual state maps (Figures 2-8).

[d] Alaska hunters only.

2. U.S. Fish and Wildlife Service national regions were used in regional analyses.

3. Sportsmen segments were not placed in mutually exclusive groups, thus hunters and fishermen could appear and be counted in more than one user group.

4. Sportsmen segments described regionally and by state were defined and selected as residents who participated in hunting and/or fishing activities within their resident region or state.

5. Some of the data and statistics in this report are slightly different from similar data and statistics in reports published elsewhere that are based on the NSFHWAR. This is to be expected, because the survey's computer file often permits a particular calculation to be made in more than one way or from more than one place on the file. It would not be cost effective to replicate the data and statistics in other reports exactly, because a search for the other programmers' techniques would be costly. In addition, subtle differences may occur due to different definitions of terms, compared with other reports. The definitions which were used in this report were selected because they are most useful in this context. When appropriate, these definitional differences have been noted or discussed.

Limitations

Several limitations should be considered in these analyses.

1. Interview responses were based on a subject's recall of a whole year's hunting and/or fishing activities. This introduces the possibility of lower accuracy of responses due to subjects guessing when they were unable to recall their activities.

2. The accuracy of results for some strata, particularly for state and regional level analyses, may be limited due to small sample sizes.

3. The following socio-demographic variables used in comparing sportsmen and nonsportsmen may have low accuracy since information was not obtained through self-report methods; one person gave responses for all members of a household and all members were included in the sample. Variables include age, marital status, sex, education, population of the location of growing up, employment, race, and location of residence.

4. Expenses for equipment presented here are underestimates of total equipment expenditures because they did not include costs for equipment that could be used for both hunting and fishing, such as boats, travel trailers, etc., though this information is available from the NSFHWAR (1982).

RESULTS

The purpose of this study was to describe characteristics of consumptive fish and wildlife recreationists in the United States. This section reports study results which are summarized for hunters and anglers at the national, regional, and state levels of aggregation. Broad data summaries for hunters and fishermen at each level of aggregation are described in this section. These summaries are based on more detailed statistical information which is presented in table form in Appendices A through C.

National Summary

More than one-quarter of the United States population engages in some type of consumptive fish and wildlife recreation. Forty-two million people are anglers and 17.4 million people are hunters.

Comparing various demographic characteristics of sportsmen with people who neither hunt or fish, present both similarities and differences worth noting. The most noticeable difference between the two groups is the ratio of males to females, with 70 percent of sportsmen being male, 30 percent being female, while only 39 percent of nonsportsmen are men and 61 percent are women. A slightly higher percentage of sportsmen than nonsportsmen are married (66 percent vs. 56 percent for nonsportsmen), and nonsportsmen have an average age of 38 years old, while sportsmen average 32 years old. Nonsportsmen more often tended to grow up and currently reside in urban environments than do sportsmen (73 percent vs. 60 percent residing in urban areas). Ninety-two percent of the Nation's sportsmen are white, as are 83 percent of nonsportsmen, and 69 percent of sportsmen are employed[1] compared to almost 53 percent of nonsportsmen. These two groups have similar levels of education (close to 75 percent of each group have attended high school or college) and they come from households of similar size (sportsmen average 3.6 persons, nonsportsmen average 3.4 persons per household).

Sportsmen represent a diversity of interests and demands on our natural resources. Some of the hunter and fishermen segments involved are described below.

Hunters

Of those who hunted in the United States in 1980, almost 12 million hunted for big game, 12 million for small game, 5 million for migratory birds and 2.6 million for "other"[2] game animals. Though the actual number of big and small game hunters is similar, small game hunters took many more trips (145 million) than big game hunters (91 million). Trips taken by migratory bird hunters numbered close to 40 million, while trips taken to hunt "other" animals totalled approximately 37 million.

Though hunting is popular throughout the country, the most often hunted of the Fish and Wildlife Service Regions, for all game types, are the southern (Region 4), the northeastern (Region 5), and the midwestern--Great Lakes (Region 3) regions (see Figure 1 for a map). Big game were hunted most often in Region 4 (29.8 million trips) and Region 5 (26.1 million trips); small game hunters spent the most time in Regions 3 and 4

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[1] Employed includes persons having a job or owning a business. Does not include persons who are retired, going to school, or keeping house.

[2] Includes crows, woodchuck, raccoon, fox, coyote, wolverine, lynx, and many other game animals.

(40.8 million trips in each region); and migratory birds were hunted most often in Region 4 (11.3 million trips). Overall the eastern regions of the country were hunted more often than the less populace western regions and Region 7, which includes only the state of Alaska, was the least hunted region.

The average age of introduction to hunting for most hunter groups was approximately 11 to 13 years of age and the average number of years of hunting experience ranged between 18 and 20 years. Exceptions to these averages include hunters of certain big game species such as antelope and deer hunters who were introduced to hunting at older ages and hunters of Hawaiian game species who had fewer average years of experience than the sportsmen in other hunter segments.

From a choice of six reasons for hunting, those reasons most frequently cited were sport/recreation and obtaining meat. Of these two, sport/recreation was listed more frequently for most small game, migratory bird and "other" animal hunter groups. Several big game hunter groups, including antelope, elk, moose, mountain goat, Alaska and Hawiian big game hunters, cited obtaining meat more frequently than recreation/sport as their most important reason for hunting. Other prominant reasons mentioned by all hunter groups were to spend time with family and friends and to be close to nature. Hunting for a trophy and to deal with problem animals were the least frequently cited reasons for hunting.

Public land provides a substantial portion of hunting opportunities. Big game hunters spent 45.9 million days on public land in 1980, small game hunters spent 39.1 million days, migratory bird hunters spent 12.3 million days, and "other" animal hunters spent 7.0 million days afield on public land. While each hunter group relies heavily on a mix of public land types, it is noticable that big game hunters spent the largest percentage of their hunting days on federal and state owned land; small game and migratory bird hunters spent the greatest proportion of their days on state and local owned public land; and "other" game hunters spent the largest proportion of their time on locally owned public land.

Travel, equipment and access expenditures associated with hunting totals approximately 4.7 billion dollars annually. Of these expenditures, one-half were spent for big game hunting, one-third for small game hunting, one-eighth for migratory bird hunting, and the remainder for hunting "other" animals. For each group, travel was the greatest expense (at least 50 percent of total), followed by equipment (35-45 percent) and access (less than 5 percent). Big game hunting expenditures were much higher than expenditures made by hunters of other game types, particularly travel costs, with big game hunters spending $1.4 billion on travel, small game hunters spending $867 million, and migratory bird hunters spending $349 million on travel.

The largest segment of hunters when classifying hunters by game species hunted, is deer hunters which number 11.4 million sportsmen. The next largest hunter segment is rabbit hunters (7.6 million sportsmen) and squirrel hunters (6.3 million). Other sizeable hunter segments include pheasant hunters (4.2 million), quail hunters (3.7 million), grouse hunters (2.3 million), duck hunters (2.7 million), and dove hunters (3.0 million).

Special weapons hunters, those who hunt with bow and arrows, a muzzle loader, or a pistol, represent a small proportion of all hunters, yet are a sizeable group of sportsmen. There are approximately 2 million bow hunters, 1.3 million pistol hunters, and .8 million muzzle loader hunters. Bow hunters and muzzle loader hunters most often pursue big game (15 million and 3 million hunting days, respectively), while pistol hunters most frequently hunt small game (5 million hunting days).

Anglers

Of those Americans who fished in the United States in 1980, 3 million fished the Great Lakes, 35.3 million fished other freshwater, and 12.3 million fished saltwater. Trips taken to fish Great Lakes locations numbered close to 36 million, trips taken to other freshwater locations totalled almost 585 million, and there were more than 130 million trips taken to fish saltwater in 1980.

Though fishing was a popular form of recreation in all regions of the United States, the largest number of freshwater trips were taken in Region 4, the southern region (176 million trips) and Region 3, the midwestern-Great Lakes region (159 million trips). The greatest number of saltwater trips (45 million) were taken in Region 5, the northeastern region, followed by Region 4, the southern region and Region 1, the western region, with 42 million and 25 million saltwater fishing trips, respectively. As would be expected, regions in the eastern half of the nation are more heavily fished than regions in the West, with the fewest total fishing trips made to Region 7, the Alaskan region.

The average age of introduction to fishing for angler user segments nation-wide ranged between 9 and 10 years old and years of fishing experience ranged between 22 and 25 years.

Freshwater anglers, including those who fish the Great Lakes, fish a variety of water locations. More than 40 percent of all freshwater anglers, close to 16 million anglers, fished river and stream locations in 1980. A large number of anglers fished large man-made reservoirs (10+ acres) and natural lakes and ponds (14.5 million anglers at each location). Small man-made reservoirs (less than 10 acres) were fished by the fewest number of freshwater anglers (8 million fishermen). Saltwater anglers were evenly distributed among fishing deep sea, surf/shore, and sound/tidal locations, with between 4 and 6 million anglers fishing each of these three areas.

Travel, equipment, and access-related expenditures associated with fishing total approximately 9.4 billion dollars annually. Of these expenditures, 70 percent were made by freshwater anglers, 25 percent by those fishing saltwater, and 4 percent by Great Lakes fishermen. For each of these groups, travel costs, including food, lodging and transportation costs, were the greatest expense. Expenses for equipment made up between 20 and 30 percent of the total for freshwater and saltwater anglers, while access-related expenses such as guide and package fees and land use fees made up between 2 and 6 percent of the total for all three groups. Freshwater anglers spent more than $5 billion on travel expenses and another $1.5 billion on equipment, while saltwater anglers spent $1.5 billion in travel and $635 million on equipment.

When classified by the fish species they pursued, the largest segment of anglers was panfish fishermen totalling slightly more than 20.6 million anglers, followed by bass fishermen (19.7 million anglers). Other sizeable angler segments include catfish anglers (14 million fishermen), trout fishermen (11.7 million) and walleye, pike, salmon, and rockfish fishermen (each with 3-5 million anglers).

Emphasis on fishing participation for specific species varied by regions of the United States (see Figure 1 for a map of regions). Warmwater species such as bass and panfish were fished most frequently in the southeastern (Region 4) and midwestern-Great Lakes (Region 3) regions. Similarly, more than half of all days spent catfish fishing took place either in the southeastern or midwest-Great Lakes regions (72 and 69 million days, respectively). Trout were pursued most often in Region 5 (slightly less than 50 million days) and Region 1 (46 million days), as well as Region 3 and Region 6 (each with 20-21 million fishing days). As one might expect, rockfish and salmon were pursued most often in the two coastal regions and walleye and pike fishing occurred most often in Region 3, the midwestern-Great Lakes region (54 million and 43 million days, respectively).

Anglers who participate in specialty fishing such as spear fishing, fishing with a seine or net, ice fishing, using bow and arrow, or gigging for frogs, make up a small proportion of the total number anglers, yet are a sizeable group of sportsmen. Ice fishermen are the largest group with 1.9 million anglers, followed by seine or net fishermen with 1.2 million anglers. There are almost a million anglers who gig for frogs, more than 441,000 spear fishermen, and 293,000 anglers who fish with a bow and arrow. Specialty anglers had been introduced to the sport of fishing at an early age, with the average age of introduction to fishing for each group being less than 9 years old, the average age for spear and bow fishermen was 7.6 years old. Of the five specialty groups, ice fishermen had the most years of fishing experience ($\bar{x}$ = 25 years) while anglers in the other specialty groups had been fishing an average of 21 or fewer years.

Region 6

Almost 1 in 4 people who live in Region 6, which includes Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, and Wyoming, engage in some type of consumptive fish and wildlife recreation. This represents the largest proportion of sportsmen in any region in the lower 48 states.

Comparing socio-demographic characteristics of Region 6 sportsmen with those of people from the Region who neither hunt or fish (nonsportsmen) reveals similarities and differences worth noting. The large majority of both sportsmen and nonsportsmen are white (96 and 93 percent, respectively) and had similar residence locations in youth, 36 percent of both groups growing up in rural areas, though more nonsportsmen than sportsmen now reside in urban areas (65 percent vs. 59 percent of sportsmen). Region 6 sportsmen and nonsportsmen have similar levels of education (34 and 33 percent of each group, respectively, have attended college) and they come from similar size households (an average of 3.6 persons for sportsmen and 3.4 persons for nonsportsmen). Sportsmen have an average of 32 years old, nonsportsmen average 38 years old. A greater percentage of sportsmen have jobs or own businesses (70 vs. 54 percent of nonsportsmen), and sportsmen are more likely than nonsportsmen to be married (66 percent vs. 59 percent). The most noticeable difference between the two groups are the proportions of males and females. Sixty-nine percent of Region 6 sportsmen are male and 31 percent are female, while only 36 percent of the Region's nonsportsmen are men and 64 percent are women.

Region 6 has the largest proportion of sportsmen who are hunters (85 percent) and the lowest proportion of fishermen (46 percent) when compared to the other six regions. Sportsmen represent a diversity of interests and demands on our natural resources. Some of the hunter and fishermen segments involved are discussed below.

Hunters

Of the 1.4 million hunters who reside in Region 6, the largest segment is small game hunters which number 924,000 sportsmen. Close to this number are big game hunters (820,000 hunters), followed by migratory bird hunters (446,000) and "other" animal hunters (246,000). These resident small game hunters took 9.6 million hunting trips, big game hunters took 3.8 million trips, migratory bird hunters took 3.8 million trips, and hunters of "other" animals such as crow, coyote, woodchuck, and fox, took 2.9 million hunting trips. More than 96 percent of these trips taken by hunters of all four game types were taken to locations within Region 6.

Region 6 hunters who do travel to other regions to hunt pursue a variety of game species. Those regions which border Region 6, including Regions 1 (the West), 2 (the Southwest), and 3 (the Midwest--Great Lakes), receive the largest share of this out-of-region use. When travelling to Region 2, the primary attraction is big game, while the attraction in Regions 1 and 3 is primarily small game. The species receiving the greatest attention from these hunters are deer, rabbit, pheasant, and turkey.

Region 6 receives a high amount of out-of-region use from all other Regions except Region 7. A wide variety of species are sought by these visiting hunters, however, the most popular include pheasant, deer, elk, and rabbit.[1]

Hunters from Region 6 began hunting at an early age and have had many years of hunting experience. The average age of introduction to hunting for most groups ranged between 11 and 14 years old and the average number of years of experience ranged between 15 and 20 years. Big game hunters began hunting at an average age of 14 years old and small game, migratory bird, and "other" animal hunters began at 12 years old. All of these groups averaged 18 years of hunting experience except "other" animal hunters, who averaged 17 years. Years of hunting experience varied widely by the specific species pursued. For example, moose (x = 23.9), mountain goat (x = 31.3 years), mountain sheep (x = 21.3 years), and woodchuck hunters (x = 21.7 years) had high average years of experience, while squirrel hunters had fewer average years (x = 14.5) of hunting experience.

When classified by their most important reason for hunting, the largest group of big game hunters are those who hunt to obtain meat. In contrast, while those hunting for meat comprised a large portion of small game, migratory bird, and "other" animal hunters, the largest segment of these groups cited hunting for sport or recreation as their most important reason. Moderately large numbers of these hunters cited being close to nature and being with family and friends as their most important reason for hunting, while those hunting for the primary reason of eliminating problem animals or obtaining a trophy represented smaller segments of hunters.

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[1] This information was obtained by examining the out-of-region participation of hunters from all regions of the country.

Hunters in Region 6 rely heavily on public land for their recreational hunting. Big game hunters spent more days (3.8 million) on public land than did small game hunters (3 million), migratory bird hunters (1.4 million) and other animal (.9 million) hunters. Hunters rely on a mix of public land, though big game hunters most frequently utilize federally owned land while small game, migratory bird, and "other" animal hunters most frequently use state and locally owned public land.

Travel, equipment, and access expenditures made by hunters from Region 6 total approximately 366.5 million dollars. Big game hunters had the highest total expenditures ($155 million), followed by small game hunters ($135 million), migratory bird hunters ($56.4 million) or "other" animal hunters ($19.6 million). Travel expenses, including food, lodging, and transportation, were the greatest expenses for all groups, big game and small game hunters spending $94 million and $88 million, respectively, on travel alone.

Grouping hunters from Region 6 by the species they pursue, the largest species-specific resident hunter segment is deer hunters (729,000 hunters). The next largest hunter segments include pheasant hunters (671,0000), rabbit hunters (434,000), duck hunters (331,000), and elk hunters (316,000).

Hunters who use special weapons represent a relatively small segment of Region 6 hunters. Pistol hunters are the largest group (111,000 hunters), followed by bow hunters (almost 87,000 hunters), and muzzle loader hunters (37,000 hunters). Bow hunters and muzzle loader hunters spend most of their days afield pursuing big game, while pistol hunters most frequently pursue small game. Reasons for hunting given by hunters in these groups focus on sport and recreation and obtaining meat. Being with family and friends, and being close to nature are of secondary importance. Elimination of problem animals is an important reason primarily for pistol hunters.

Anglers

Region 6 was fished the least frequently of all regions in the lower 48 states. The majority of anglers fishing there were "resident" freshwater anglers (2.4 million), anglers living in states within Region 6. These anglers took more than 33 million freshwater fishing trips within the region, more than 90 percent of total trips taken there (see Tables 13 and 14 in Appendix A for total fishing participation in Region 6).

In addition to their in-region activities, Region 6 residents frequently fished out-of-region. Other popular regions were Region 3 where anglers most frequently fished for bass and panfish, and Region 1 where anglers fished most often for trout and salmon.

Grouping anglers from Region 6 by the fish species pursued, the largest group is trout anglers (1.4 million fishermen). These anglers spent 18.6 million days trout fishing, 95 percent of them within Region 6. Other significant angler segments include bass, panfish, and catfish anglers (800 to 900 thousand anglers in each group), who each spent between 12 and 14 million day fishing, more than 85 percent of them within the Region.

Most anglers living in Region 6 were introduced to fishing at an early age, average age ranging between 8 and 10 years old. Most Region 6 anglers averaged 21-23 years of fishing experience.

Freshwater anglers from Region 6, including those few who fish the Great Lakes, fish a variety of water locations. More than 1.4 million anglers fished large man-made reservoirs (10+ acres), 1.2 million fished rivers and streams, and almost a million fished natural lakes and ponds.

Among saltwater anglers, deep sea locations were most popular (68,000 anglers fished those locations), while surf/shore and sound/tidal areas were used by fewer saltwater anglers (46,000 and 28,000 anglers, respectively).

Travel, equipment, and access-related expenditures made by Region 6 resident anglers total more than .5 billion dollars annually. Virtually all these expenditures were made by freshwater anglers ($495 million), with saltwater anglers spending 10 million dollars. Travel expenses, including food, lodging, and transportation costs, made up between 70 and 80 percent of total costs for both groups and averaged $140.00 and $84.00 per capita, for fresh and saltwater anglers respectively.

Region 6 anglers who participate in specialty fishing such as ice fishing, net or seine fishing, gigging for frogs, spear fishing, or using a bow represent a comparatively small proportion of all anglers, but are a fairly sizeable group of sportsmen. Ice fishermen are the largest group, with more than 190,000 anglers who spent a million days ice fishing in 1980. There were 25,000 net or seine anglers, 21,000 bow and arrow anglers, 18,000 anglers who gigged for frogs, and 11,000 spear fishing anglers. Like other fishermen, specialty fishing anglers were introduced to the sport of fishing at an early age (average ranging between 7 and 9 years old), and they averaged between 17 and 23 years of fishing experience.

Montana

Almost half the people 16 years old and older living in Montana either hunt, fish, or do both. Comparing socio-demographic characteristics of Montana sportsmen with those of people from the State who neither hunt or fish (nonsportsmen) reveals similarities and differences worth noting. The large majority of persons in both groups are white (92 percent of sportsmen, 85 percent of nonsportsmen), though American Indians and other natives make up only 7 percent of Montana's sportsmen and 14 percent of nonsportsmen. The two groups have similar levels of education (more than 75 percent of each group have attended high school or college) and live in similar size households ($\bar{X}$ = 3.6 persons per household for sportsmen and $\bar{X}$ = 3.4 persons for nonsportsmen). Close to 65 percent of both groups grew up in either small towns or rural areas and 53 percent of sportsmen and nonsportsmen now live in rural locations. The average age of Montana sportsmen is 32 years old, nonsportsmen average 39 years old. Sixty-eight percent of sportsmen are married, 60 percent of nonsportsmen, though 10 percent of nonsportsmen are widowed, compared with only 2 percent of sportsmen. The most noticeable difference between the two groups are the proportions of males and females. Sixty-eight percent of Montana's sportsmen are male and 32 percent female, while 34 percent of nonsportsmen are male and 66 percent are female.

The following sections describe the characteristics and degree of participation of the user segments that make up the group of 250,000 Montana resident sportsmen.

Hunters

Close to 200,000 people hunted in Montana in 1980. Included in that total are more than 150,000 resident hunters. Montana hunters pursued a variety of game in their state, with big game hunting strongly dominating. More than 143,000 hunters hunted big game, 54,000 hunted small game, close to 30,000 hunters pursued migratory birds along with 30,000 hunters who hunted "other" game such as woodchuck, fox, and coyote.

Montana resident hunters began hunting early and have had many years of experience. More than 75 percent of all hunter groups were introduced to hunting by age 15, and between 40 and 50 percent of all hunters have been hunting at least 18 years.

The majority of Montana hunters do not belong to national conservation or wildlife-related organizations, particularly big game hunters (77 percent of that group belonging to no organization). Those that do belong have membership in sportsmen and wildlife-oriented groups that include Ducks Unlimited, National Rifle Association, National Audubon Society and the Wildlife Society.

The most frequently mentioned reasons for hunting given by resident hunters include obtaining meat and hunting for sport and recreation. Obtaining meat was the dominant reason given by big game hunters, with 54 percent of that group citing that as their most important reason for hunting, while hunting for sport and recreation was more important to small game and migratory bird hunters.

Montana resident hunters who hunt on public land hunt primarily on federal lands, particularly big game hunters, who spent almost 600,000 days hunting on federal lands in 1980. Small game hunters spent more than 100,000 days hunting on federal lands, migratory bird hunters spent almost 40,000 days hunting on federal land, as well as 26,000 days hunting on locally owned public land. "Other" game hunters hunted most often on locally-owned public land, spending 112,000 days hunting there in 1980.

The distribution of hunting days over the state's wildlife management regions (see Figure 6) varied somewhat by the type of game hunted. The southwest region (303) of the state was the most heavily hunted for big game and migratory birds, with 334,000 and 48,000 hunting days, respectively. Small game hunting occurred most often in the northeast (306) region (145,000 hunting days) and all types of game were frequently hunted in the north- central region (304) of the state. The southcentral (305) and southeastern (307) regions were the least heavily hunted state regions.

In 1980 Montana resident hunters spent almost 23 million dollars on travel and access-related expenses, the majority of it in-state. Resident big game hunters spent $15 million in Montana on travel expenses such as food, lodging, and transportation, and small game and migratory bird hunters spent close to $3 million and $1.3 million in-state, respectively. Access-related expenses such as guide, pack trip, and access fees paid in-state by Montana hunters totalled $353,000, almost all of it spent by big game hunters.

In looking more closely at resident hunters of some of the game species pursued, we find that deer hunters were the largest group, with 133,000 hunters, followed by elk hunters (82,000), and grouse hunters (34,000). Other significant hunter segments include pheasant hunters (29,000), duck hunters (27,000), and goose hunters (20,000 hunters). Deer were hunted most freqently in the northwest (301), southwest (303), and north central (304) regions of Montana, with at least 200,000 hunting days in each region in 1980. Elk hunters spent the most time hunting (260,000

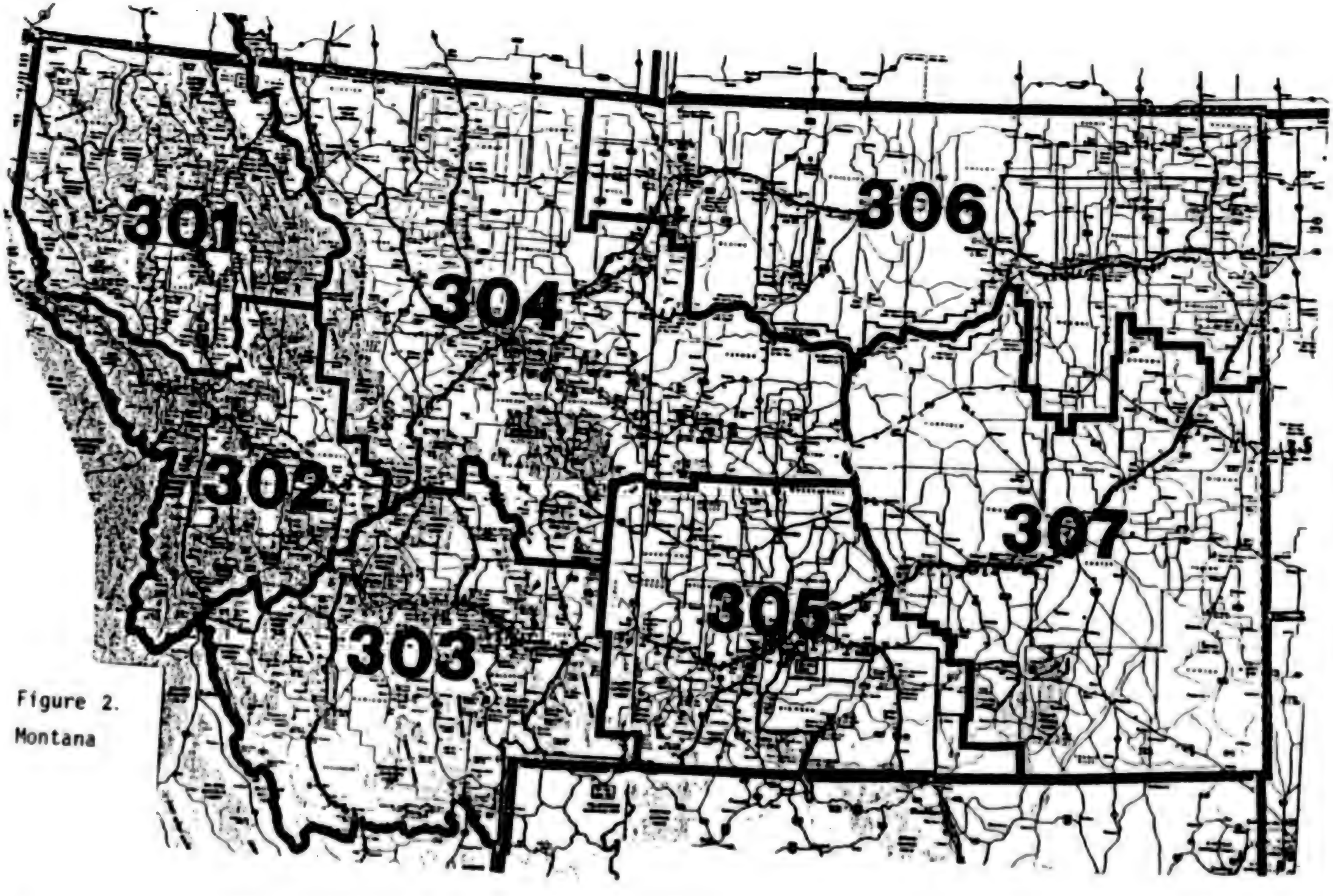

Figure 2.
Montana

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days) in the southwest (303) region of the state, while pheasant and grouse hunters most often hunted the northeastern (306) region, and goose and duck hunters hunted the north central (304) region.

Montana has a relatively small number of resident special weapon hunters. There are about 9,000 bow and arrow hunters and 1,300 muzzle loader hunters. Bow and arrow hunters spent 62,000 days hunting and muzzle loader hunters spent 2,000 days; all hunting took place in-state. All days spent hunting with muzzle loaders and 90 percent of days hunting with bow and arrow were spent pursuing big game. Similar to other hunters, reasons for hunting given by these special weapon hunters centered around obtaining meat and hunting for recreation and sport.

Anglers

Montana had more than 300,000 sport fishing participants in 1980. Included in that total are close to 200,000 resident freshwater anglers, including 174,000 resident trout fishermen.

Montana's resident freshwater anglers were introduced to fishing at an early age and have had many years of experience, with 57 percent of that group having begun fishing by eight years old and 59 percent having fished for more than 18 years.

Montana fishermen do not seem to be joiners of national conservation and wildlife-oriented organizations, with 78 percent of resident freshwater anglers belonging to no such organizations.

Montana's freshwater anglers fish a variety of water locations such as large and small man-made reservoirs and natural lakes and streams, though they fish most often on rivers and streams.

The amount of fishing done by Montana resident freshwater anglers varied over the wildlife management regions of the state. The largest number of fishing days, more than 990,000, took place in the southwestern (303) region, followed by the north central (304) and northwestern (301) regions (723,000 and 713,000 days, respectively). The northeastern (306), south central (305), and west central (302) regions each had between 200,000 and 260,000 fishing days in 1980, while the least fished region was the southeastern (307) region.

In 1980 Montana resident freshwater anglers spent more than 28 million dollars travelling and gaining access to fishing locations in- and out-of-state. Resident anglers spent more than 24 million dollars in-state, close to $120 per capita, for travel-related expenses such as food, lodging, and transportation, and another $215,000 for in-state guide and other access-related fees.

Looking specifically at Montana resident trout fishermen, who number 174,000, the distribution of days fishing throughout the state was similar to that of freshwater fishermen in general. The greatest number of trout fishing days occurred in the southwestern (303) region (more than 970,000 days), followed by the northwestern (301) and north central (304) regions of Montana. Again the eastern regions of Montana had the fewest resident trout fishing days.

Montana has a fairly substantial group of ice fishermen, with close to 34,000 participants who generated more than 168,000 days of participation in 1980, 98 percent of those days spent in Montana. Ice fishermen as a group were introduced to the sport of fishing early, with 67 percent having been introduced to fishing by age eight, while only 57 percent of all freshwater anglers were fishing by that age. Ice fishermen have been fishing a long time as well, with 63 percent having had at least 18 years of fishing experience.

APPLICATIONS OF INFORMATION ABOUT USER GROUPS

The purpose of this section of the report is to describe ways which user segment data can be used by fish and wildlife managers. It is not the intent to describe all data implications, instead we present a framework for utilizing data from the 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (NSFHWAR).

Recommendations made here about the use of NSFHWAR data are offered within the context of a model of recreation planning and management founded in "rational planning theory" (Banfield, 1959). The rational perspective guides planning conducted by most federal resource management agencies (Culhane and Friesema, 1979). General steps involved in this approach include developing goals, identifying feasible means to attain goals, determining the effects of implementing alternative means, and choosing the means which best lead to goal attainment.

Application of this approach in recreation management has been offered by Brown (1977) who identified three key decision points in the planning process; selection of management objectives which lead to goal attainment, selection of management actions which allow for fulfillment of objectives, and selection of modification in planned programs. Each decision point is ultimately guided by the desired goals of the planning effort.

Within the realm of recreation management, Driver and Brown (1978) have noted that the most important goals of recreation managers are 1) to provide recreation opportunities which are demanded and appropriate for the area being managed, 2) to prevent unacceptable damage to the resources, and 3) to protect users from serious harm. They also note that to develop objectives in meeting these goals managers need both social and biological information.

In the area of fish and wildlife management, biological information has traditionally served as the basis for decision making. However, to meet goals of providing desired opportunities, and to make more equitable, easily justifiable decisions, managers need information about users, i.e. social information. Managers need to understand their clients and the clients' preferences so they can provide the "products" that people want (Witter, 1980).

General conclusions found within the recreation literature suggest that 1) the product of a recreation engagement is the satisfactions or psychological benefits received by a person and 2) there is no typical recreationist; desired types of recreation vary in terms of the characteristics of people who engage in them, the satisfactions they receive, the activities they engage in, and the resource setting, social and managerial, they prefer. Consequently, a current emphasis within recreation research has been to provide information which would reveal the preferences of distinct user groups and the satisfactions they receive from their preferred experiences and to emphasize the uses of these data in the management and planning context.

Data from the NSFHWAR offers managers information which they can use in meeting goals of recreation management related to providing demanded opportunities. The remainder of this section illustrates some of these applications.

It should be recognized that it is unlikely that social survey data, such as that obtained in the NSFHWAR will yield "gee whiz" results. As noted by Witter (1980), reasonable expectations of such data are a) to confirm the view held by a commissioner, administrator or biologist, b) to better acquaint the professional with a situation, or c) to be filed away until a problem arises to which results apply more directly. Data will yield clues which will improve management. We advocate that the information will contribute to evaluating effectiveness, managerial feasibility, political acceptability, and equitability of policies being considered.

Developing Management Objectives

Critical activities done by planners and managers are formulating and selecting objectives to guide management. These objectives are measurable and attainable statements of goals and represent the targets which management actions are designed to achieve. For example, an agency may adopt a goal of increasing the user satisfaction gained from fishing. Objectives should answer specifically what that means. Questions to be addressed might include "What is the magnitude of increase that is important and realistic?" "Over what time do we want to consider an increase?" "What do we mean by satisfaction?", specifically, "What dimensions of satisfaction are important for management?". Answers to these questions would be found in objectives. For example one might establish objectives of "increasing the average catch of fish per person by one fish during the next five years." Assumptions in formulating the objective may be that 1) catching fish is related to a prominent satisfaction of the users being managed, 2) catching fish can be affected by management, and 3) a one fish increase in catch is a realistic target over a five year period.

Other objectives which clarify the goal are possible and a major activity of the planner is to determine which of the possible objectives clarifying the goal are relevant, given the biological, user, and management situations. Usually decisions about appropriate objectives involve considering information about user preferences, resource capabilities, institutional factors, and the existing situation (Brown 1977).

The NSHFWAR does not have all the user information the planner needs, as no survey with broad purposes would, but it does have some information that would be useful in formulating management objectives in several situations. A few such situations are described below.

Developing recreation experience objectives.

A goal of recreation management is to provide opportunities for satisfying recreation experiences. Prerequisite to meeting this goal is information about the preferred recreation experiences of user groups. The NSFHWAR offers some useful experiential information.

To illustrate, assume Montana adopts a goal of increasing the satisfaction obtained from big game hunting. Data from the survey relevant to this goal shows that for Montana big game hunters, obtaining meat is a dominant reason for hunting, with sport and recreation being of somewhat lesser importance. This suggests that objectives focused on increasing harvest of big game will be consistant with the goal of increasing user satisfaction. In contrast, if one were considering increasing satisfaction from big game hunting in California or New York, according to findings of the NSFHWAR, greater emphasis would need to be placed on developing opportunities to enhance sport and recreation (e.g. increasing access).

Another more specific example is provided when examining deer hunting in Oregon. Overall satisfaction ratings for deer hunters vary greatly according to the region in which hunting occurs. Hunter groups using the Willamette Valley reported lower satisfaction than hunters visiting other regions. Management efforts might focus on improving hunting in this region. In seeking possible improvements, managers might examine such things as the difficulty hunters encounter while hunting in the dense vegetation of the Oregon Coast Range, crowding, and the problems hunters have in obtaining access to the private lands of the Valley. Management may then provide ways to increase hunter opportunities for access and success and improving their hunting skills.

Data are also available to aid managers in meeting a goal of providing a diversity of recreational opportunities. For example, when Oregon big game hunters are segmented according to their most important reason for hunting, the largest group is comprised of individuals who cited "obtaining meat". Other large groups included those citing "being with family and friends", "sport", and "being close to nature". A relatively small segment cited "obtaining a trophy" as their most important reason for hunting; that group represented about 1 percent of the hunter population. Though a small group, managers should recognize and consider trophy hunters' interests. Objectives might be developed which address how the Department of Fish and Wildlife will meet the preferences of that specific group (e.g. special hunts, trophy areas).

Information such as this gives managers an idea of the hunter groups they serve and the satisfactions they receive. The objectives which are developed using these data will contribute to providing an array of opportunites desired by the public.

Developing economic development objectives

Wildlife related recreation is an important component of some local economies and justification for enhancing fishing and hunting opportunities may, in part, be based on expected economic stimulation. On the other hand, it is sometimes useful to be able to predict the economic impact of loosing opportunities for hunting and fishing. Data from the NSFHWAR offer a variety of information types regarding the expenditures of hunters which would be quite useful in constructing economic development objectives.

For example, while all categories of Oregon hunters spend large amounts of money on travel-related goods and services, big game hunters spent more on outfitters and equipment rental than did other hunters, while small game hunters spent more on land access fees than did other hunters. Thus, big game hunters especially support the outfitter segment of the economy while small game hunters provide income directly to land owners as they purchase access rights. Objectives to increase the participation of each group will lead to different goals. Expenditures for fishing show similar kinds of user group differences. For example, Oregon saltwater anglers spent proportionately more for package trip fees than did freshwater anglers.

Findings such as these should signal the need to consider different economic stimulation objectives for different kinds of hunting and fishing and to test the effects of both objectives and management actions on local and regional economies. One would want to know whether or not significant positive or negative effects would occur in important economic sectors.

Baseline comparisons as a means for constructing objectives

Construction of realistic and attainable objectives is made possible when consideration is given to current conditions. To aid in this process, the NSFHWAR offers a variety of information describing the existing situation regarding hunting and fishing at state, regional and national levels. This information can be a baseline against which proposed goals and objectives are compared.

A portion of the survey data describes the within-state geographical distribution of hunting and fishing by different groups. If one were to set a goal of increasing the amount of hunting in a particular region of a state, this survey information could be the base information for defining an increase for the user group of interest. Also, it might be used to determine if other regions might lose sportsmen to the region being emphasized. For example, there are currently 83,000 days of big game hunting in the Wrangell Mountain region of Alaska. If we were to consider an increase in big game hunting in this region over the next five years, we might realistically consider an increase of 1,000 days, 10,000 days or 25,000 days but probably not an increase of 100,000 days. One thousand days represents 1 percent, 10,000 days represents 12 percent, and 25,000 days represents 30 percent of big game hunting whereas 100,000 days would mean more than doubling the current hunter days. The baseline data aid in deciding what is realistic and in selecting the level of increase that would represent a measurable standard whose attainment could be evaluated.

Developing cooperative goals and objectives

Though the management of fish and wildlife is primarily a responsibility of state agencies, cooperation is an essential part of a successful management approach. This would include cooperation with landowners (both private and public) and also with fish and wildlife agencies in neighboring states. Data from the NSFHWAR may provide some descriptive data which are useful in establishing cooperative objectives.

At a regional level, each state's hunting and fishing pattern can be compared to the amounts and patterns for adjacent states and the total region to aid in identifying commonalities and differences among states and subregions within a larger region. For example, in the southern region of the U.S. about 70 percent of the anglers fish freshwater while 30 percent fish saltwater, with over 80 percent of the fishing trips being taken to freshwater sites. Freshwater fishermen fish in large reservoirs, rivers and streams, small reservoirs, and natural lakes/ponds. Saltwater anglers fish surf/shore areas, sounds and tidal areas, and deep sea areas. Louisiana, a state in the southern region, has similar proportions of freshwater and saltwater fisherman. Louisiana however, has a larger proportion of freshwater fishing occurring in natural lakes and ponds. Regional programs might take into account such differences.

Cooperation with land management agencies might be particularly important in attempts at providing nonconflicting types of recreation at a given location. An illustration of how NSFHWAR data might aid in achieving this is provided when examining the type of land hunted by various user groups in Oregon. Big game hunters rely most heavily on federally owned lands while migratory bird hunters rely most heavily on locally owned public lands. This suggests that when managers are developing objectives for meeting the needs of big game hunters, it would be useful to work cooperatively with the major land management agencies, the U.S. Forest Service and Bureau of Land Management.

Resource planning in the 70's and 80's emphasizes integrated resources planning. Fish and wildlife agencies' cooperation with land managers to provide recreation will alleviate potential conflicts which arise due to conflicting objectives. Data from the NSFHWAR may give clues about areas of needed cooperation among agencies.

Developing Management Actions

Once management objectives have been agreed upon, one needs to decide the best means to achieve them. There is usually a wide range of management actions available for consideration. Some deal with manipulating biological and physical environments, some deal with regulatory actions by management, and others emphasize influencing user behavior.

Making decisions about appropriate management actions is usually aided by having information on the character of the area (facilities, physiographic elements, wildlife, etc.), the perceptions of users regarding alternative management actions and their effect on behavior, the institutional directives affecting the agency and situation, and the existing situation (Brown 1977). Information from users is particularly relevant to knowing about user perceptions and the existing situation, and information obtained by the NSFHWAR is almost exclusively of the latter type. It is particularly good for describing the present users and what they do. Below are a few ways this information from the national survey might be used in identifying and selecting management actions.

Development of regulations

Development and enforcement of regulations are undoubtedly the most effective and frequently used management tools for achieving many wildlife recreation objectives. Over the past decade there has been a trend toward user specific regulations (e.g. different regulations based on methods of taking wildlife) and resource specific regulations (e.g. different regulations for different areas or rivers). Information from the NSFHWAR may aid managers by giving them clues about the types of user groups which will be affected and the types of impacts which will occur for a given regulation.

One area where the data might be of assistance is in determining season length. By comparing harvest figures with effort information, it is possible to obtain clues about what the effect of lengthening seasons may be for any specific user group. For example, the data show that bow and arrow hunters in New York spent more total days hunting for big game (931,600 days) than did muzzle loaders hunters (119,100 days). Using these data with harvest figures would show that muzzle loader hunters have a much lower harvest per effort ratio than do bow and arrow hunters. A longer season may be neccessary to reach desired or equitable harvest levels for muzzle loader hunters.

The data might also aid managers in enforcement of regulations. One important decision is what manpower allocations should be made to achieve a distribution of game officers, proportional to existing recreation use for different user groups. Data are available within the survey which yield amount of use by region for user groups identified by the species they pursued. For example, New York trout fishermen spent the largest proportion of days fishing within three of the state's seven regions (368, 364, 365). Each of these regions had approximately 20 percent of the total days spent trout angling. This proportion may prove useful in scheduling patrolling efforts in the state during trout season.

In establishing regulations, particularly special regulations, managers should attempt an analysis of the types of user groups who will be affected and how they will be affected. These few illustrations suggest that NSFHWAR data may aid in that type of analysis.

Resource enhancement and access improvement

Managers are frequently faced with the problem of how to increase the supply of hunting and fishing opportunities for the public. Two frequent approaches to this include enhancing the resource in order to provide fish and game, and providing public access to these resources. Data from the NSFHWAR may aid managers in determining where to increase efforts to maximize increased participation for specific user groups. Managers might compare current supply of opportunities within a region (e.g. acres of available land, accessible stream miles), with current uses to make some estimation of where high resource utilization is occurring (relative to resource capacity). This may give some information to aid in setting priorities for land and access acquisition or resource development plans.

Allocation and pricing of licenses

One of the most volatile issues in wildlife management stems from the pricing and allocation of licenses. Current issues faced by managers include questions such as "should there be a license required for saltwater fishing groups?" "what price should be charged for a license?" and "what might the effect be of increasing license sales for certain user groups?". Data from the NSFHWAR will not provide answers to these questions but may provide information to aid in their analysis. For example, Michigan big game hunters were found to have spent, on the average, $119 per capita for in-state travel and access expenses. Such information can be used with average participation figures to arrive at an average of between $13 and $24 per hunting trip. This figure can be used in projecting the impact to local economies of increases or decreases in numbers of big game hunters and the number of trips they take.

In another situation, the state of Oregon is considering the effect of requiring a fishing license for saltwater anglers. Data show that 257,000 Oregon residents engage in some type of saltwater fishing. Certainly a large proportion of these anglers hold licenses for fishing, however this figure may be useful in estimating the revenue generated through the sale of a special license required for saltwater angling.

Allocation and pricing of licenses will certainly remain an important issue for fish and wildlife agencies. Efforts to adopt new licensing which include analyses of the user groups effected are more likely to be justifiable to the public.

Information and education

Many of the problems associated with management of fish and wildlife in the United States are related to problems of information dispersal and sportsman education. As a management action to aid in meeting objectives, information dispersal is notably difficult to evaluate and not always guaranteed effective. As suggested by Mendelsohn (1979) one concern of media campaigns should be understanding the people receiving the information, including their demographic and psychological attributes and their belief system.

The NSFHWAR data concerning the characteristics and demographic origins of some user groups which may aid in planning communication efforts. For example, data which may be useful reveals the out-of-region origin of hunter groups. For example, data from the northeastern region of the U.S.suggests that a high proportion of out-of-region deer hunters originate in the western, southern and midwestern regions. Communication with deer hunters should concentrate more heavily on those regions.

Other information about specific user groups may aid in targeting people for communication. More effective communication will result from knowing for whom information is intended and where they reside.

Selecting Modifications in Programs

Implementation of management actions designed to achieve specific objectives is the culmination of the management planning process. It will have effects and the good manager will ask whether or not the actions are effective, and whether or not the objectives remain relevant. Thus, implementation of actions should lead to evaluation and evaluation can often lead to recognizing the need to modify programs. The kinds of information useful for selecting program modifications are the same kinds useful for selecting management objectives and actions. Sometimes user information is what is needed.

Effective program evaluation can occur when baseline data exists, management objectives have been selected, and information comparable to the baseline data has been collected after program implementation. The NSFHWAR data can be useful as baseline or followup data, however, as followup data it, of course, requires previously collected data of a similar nature. For example, if New York had established a program to increase migratory bird hunters' days afield on state refuges they could compare data collected in their planning year to the 1980 survey data (i.e. 41,000 days) to aid in program evaluation.

Unfortunately, many states may not have data from earlier years and in such cases the 1980 survey data can serve as a baseline against which future objectives and data can be compared. Particularly useful would be participation information such as number of hunters per user group, number of days and hunting per region for each hunter group.

Conclusion

We have illustrated applications of NSFHWAR data concerning consumptive recreation users of fish and wildlife in the United States. There are certainly other applications of data which will be recognized by planners and managers within fish and wildlife management agencies. User group data for the nation, regions within the nation, and selected states are located in the Appendices. Furthermore, individual state agencies may wish to obtain raw data for analyses specific to their problems. In each case the survey offers social information which managers can use to aid in effective planning and management of fish and wildlife for recreation.

LITERATURE CITED

Applegate, J.E. 1977. Dynamics of the New Jersey hunter population. Trans. of North Amer. Wild. Conf. 42:103-116.

Banfield, E.C. 1959. Ends and means in planning. International Social Science Journal 11(3).

Brown, P.J. 1977. Information needs for river recreation planning and management. p. 193-200 in Proceedings: River Recreation Management and Research Symposium. USDA For. Ser. Gen. Tech. Rep. NC-28. North Central For. Exp. Sta., St. Paul, Minn.

Brown, P.J. 1982. Recreation opportunity spectrum with implications for wildlife-oriented recreation. Trans. of the 47th North Amer. Wildl. and Nat. Resour. Conf. 705-711. Washington D.C. Wildlife Mgmt. Inst.

Brown, P.J., A.A. Dyer, and R.S. Whaley. 1973. Recreation research-so what? Journal of Leisure Research 5(1):16-24.

Bryan, H. 1977. Leisure value systems and recreation specialization: The case of trout fishermen. J. Leis. Res. 9(3):174-187.

Bryan, H. 1979. Conflict in the great outdoors. The University of Alabama. Sociological Studies No. 4. University of Alabama.

Buchanan, T., D.S. Warder, M.A. Collins, and G. Phillips. 1982. Assessing the benefits of special fisheries management. p. 58-63 In Forest and River Recreation: Research Update. Misc. Pub. 18-1982, The Agr. Exp. Stn., Univ. of Minn., St. Paul, Minnesota.

Buist, L.J. and T.A. Hoots. 1982. Recreation opportunity spectrum approach to resource planning. Journal of Forestry 30(2):84-86.

Clark, R.N. and G.H. Stankey. 1979. The recreation opportunity spectrum: a framework for planning management and research. USDA Gen. Tech. Rep. PNW-98. Pac. Northwest For. and Range Exp. Stn., Seattle, Wash.

Crissey, W.F. 1971. Some thoughts on wildlife research and management objectives. The Wildl. Soc. News 134:27-28.

Culhane, P.J. and H.P. Friesena. 1979. Land use planning for the public lands. Natural Resources Journal 19(1):43-74.

Driver, B.L. and P.J. Brown. 1978. The opportunity spectrum concept and behavioral information in outdoor recreation resource supply inventories: a rationale. p. 24-31 in "Integrated inventories of renewable natural resources: proceedings of the workshop." USDA Forest Service Gen. Tech. Rep. RM-55. Rocky Mtn. For. and Range Exp. Stn., Fort Collins, Colo.

Driver, B.L., and S.R. Tocher. 1970. Toward a behavioral interpretation of recreation engagements, with implications for planning. p. 9-31 in Elements of Outdoor Recreation Planning. B.L. Driver, (ed.). Univ. Microfilms Mich., Ann Arbor, Mich.

Hautaluoma, Jacob and P.J. Brown. 1978. Attributes of the deer hunting experience: a cluster-analytic study. Journal of Leisure Research 10(4):271-287.

Hendee, J.C. 1974. A multiple satisfaction approach to game management. Wildl. Soc. Bull. 2(2):104-113.

Kennedy, J.J. 1974. Attitudes and behavior of deer hunters in a Maryland forest. J. Wildl. Management 38(1):1-8.

Mendelsohn, H. 1973. Some reasons why information campaigns can succeed. Public Opinion Quarterly 37(1):50-61.

More, T.A. 1973. Attitudes of Massachusetts Hunters. p. 230-244 In Trans. of the 38th North Am. Wildl. and Nat. Resour. Conf. Washington D.C. Wildlife Mgmt. Inst.

Potter, D.R., J.C. Hendee and R.N. Clark. 1973. Hunting satisfaction: game, guns, or nature? Trans. of North Amer. Wildl. and Nat. Res. Conf. 38:220-229.

Shafer, E.L. 1969. The "average" camper who doesn't exist. Research Paper NE-142, Northeast Forest Exp. Stn., USFS, Upper Darby, Pennsylvania.

U.S. Fish and Wildlife Service. 1982. The 1980 National Survey of fishing, hunting, and wildlife-associated recreation--A plan for data analysis. Division of Program Plans, Washington, D.C. 82 pp.

U.S. Fish and Wildlife Service and U.S. Bureau of the Census. 1982. 1980 Natl. Survey of fishing, hunting, and wildlife-associated recreation. U.S. Govt. Printing Office, Washington, D.C. 156 pp.

Wagar J. Alan. 1966. Quality in outdoor recreation. Trends in Parks and Recreation 3(3):9-12.

Witter, D.J. 1980. Wildlife values, applications and information needs in state wildlife management agencies. p. 83-90 In Wildlife values, W.W. Shaw and E.H. Zube (eds.), Center for Assessment of Noncommodity Natural Resource Values, Ins. Ser. Rep. 1, Rocky Mt. For. and Range Exp. Stn., Fort Collins, Colo.

Appendix A: National Data

Table 3 Selected characteristics, sportsmen and nonsportsmen nation-wide, 1980.

Characteristic	Sportsmen[a] (percent)	Nonsportsmen[b] (percent)
Marital Status[c]		
Married	65.6	56.5
Widowed	2.2	9.3
Divorced	5.1	5.8
Separated	1.5	2.1
Never Married	25.7	26.2
Sex[d]		
Male	70.5	39.0
Female	29.5	61.0
Education		
None	.2	.7
Kindergarten	.5	.7
Elementary	23.9	24.7
High school	46.6	45.7
College	28.8	28.2
Average age[d]	31.9 years	38.1 years
Population growing up[e]		
Large urban	14.9	22.2
Medium urban	17.0	18.9
Small city	18.2	17.7
Small town	19.9	18.2
Rural	30.1	23.0
Employed[e],[f]		
Yes	68.9	52.6
No	30.1	47.4
Race[d]		
White	92.0	83.0
Black	5.9	13.6
American Indian, Aleut, Eskimo	.6	.5
Asian, Pacific Islander	1.1	1.9
Other	.5	1.0
Size of residence[d]		
Urban	60.4	72.7
Rural	39.6	27.3
Average household size[d]	3.6 persons	3.4 persons

[a] U.S. population age 6 years old and older who hunted or fished in 1980.

[b] U.S. population age 6 years old and older who did no hunting or fishing in 1980.

[c] Persons 14 years old and older.

[d] Persons 6 years old and older.

[e] Persons 16 years old and older.

[f] Have a job or own a business. Excludes persons who are retired, going to school, or keeping house.

Table 4. Number of trips and days of participation in regions nation-wide[a], hunter groups defined by type of game, 1980.

Hunter segment[b]	Trip	Days Total	Days Mean	No. of hunters
Region 1				
Big game	6,371,170	9,346,763	8	1,091,777
Small game	9,650,881	10,246,575	9	1,039,900
Migratory birds	4,382,208	4,996,874	7	666,926
Other animals	1,252,713	1,268,946	8	147,872
Region 2				
Big game	6,083,974	8,526,873	7	1,169,955
Small game	15,991,311	16,661,970	12	1,373,875
Migratory birds	6,578,385	7,090,780	7	938,637
Other animals	4,048,544	4,227,338	12	335,566
Region 3				
Big game	18,308,817	23,542,628	8	2,753,005
Small game	40,843,329	42,745,393	12	3,395,715
Migratory birds	7,797,216	8,376,662	8	956,593
Other animals	964,693	9,993,766	15	665,701
Region 4				
Big game	29,804,739	33,725,162	12	2,670,509
Small game	40,776,248	41,613,694	12	3,215,372
Migratory birds	11,315,673	11,952,946	7	1,545,981
Other animals	9,415,253	9,476,380	16	582,051
Region 5				
Big game	26,094,042	29,962,451	9	3,297,850
Small game	27,166,687	27,814,506	11	2,502,552
Migratory birds	5,630,446	5,818,225	8	721,264
Other animals	10,014,704	10,277,522	15	683,375
Region 6				
Big game	4,366,438	7,014,071	6	1,202,805
Small game	10,158,338	11,379,503	10	1,082,426
Migratory birds	4,043,005	4,324,899	8	504,039
Other animals	2,990,141	3,118,311	12	257,096
Region 7				
Big game	270,212	482,362	9	52,014
Small game	449,237	465,973	13	34,309
Migratory birds	108,447	137,460	6	22,184
Other animals	56,218	67,295	18	3,687
TOTAL				
Big game	91,256,800			11,806,000
Small game	145,167,000			12,362,000
Migratory birds	39,980,000			5,311,000
Other animals	37,468,000			2,642,000

[a] U.S. Fish and Wildlife Service Regions. See Figure 1 for a map.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on hunting within the United States in hunter's five most often hunted locations.

Table 5 . Age of introduction to hunting[a] for hunting groups nation-wide, 1980.

Hunter segment[b]	Age of introduction[c] 01-12	13-19	20-29	30-39	40-98	Average age
	----------	Number of hunters	----------			
Big game	5,035,219	4,694,619	722,533	204,232	90,021	13.4
Deer	5,790,451	4,577,238	691,023	199,050	38,082	13.4
Elk	447,819	230,185	48,755	17,600	7,634	13.0
Antelope	64,492	37,850	8,531	2,878	5,824	14.7
Moose	9,138	5,576	88	--	633	12.2
Bear	324,356	192,757	28,902	3,340	--	12.3
Turkey	925,380	458,788	42,767	21,628	17,483	12.5
Mountain goat	2,880	--	--	--	--	9.4
Mountain sheep	2,037	2,080	--	--	--	11.6
Alaska big game	28,237	11,952	5,157	72	--	12.3
Hawaii big game	11,560	5,776	2,082	--	661	14.7
Small game	6,904,329	4,629,921	587,081	104,220	57,813	12.7
Rabbit	4,237,640	2,899,850	309,705	49,467	30,330	12.6
Quail	2,424,715	1,057,686	115,848	29,835	9,585	11.6
Grouse	1,304,223	854,050	82,869	20,874	10,604	12.8
Chuckar	364,738	221,648	45,124	10,443	9,944	13.4
Squirrel	3,684,063	2,319,814	239,988	36,258	23,130	12.4
Pheasant	2,261,216	1,671,559	193,021	36,478	17,246	13.0
Alaska small game	21,227	7,133	3,758	485	--	12.5
Hawaii small game	7,480	3,692	934	--	484	14.7
Migratory birds	3,382,738	1,816,975	215,088	62,156	21,941	12.1
Geese	887,689	435,864	45,063	9,328	10,124	12.0
Duck	1,742,855	812,778	102,790	27,216	16,777	12.0
Coot, rail	89,812	42,925	1,270	--	--	11.0
Woodcock	279,649	200,899	6,099	1,759	--	12.3
Dove	2,031,870	798,781	128,938	40,725	7,268	11.8
Pigeon	70,351	14,611	--	--	--	10.2
Alaska migratory birds	13,671	5,314	812	377	--	11.4
Hawaii migratory birds	704	1,162	189	--	--	14.6
Other animals	1,687,319	860,510	50,915	10,049	11,335	11.6
Crow	306,947	153,426	14,423	2,712	--	11.7
Woodchuck	404,697	267,714	8,447	5,894	4,980	12.5
Raccoon	748,509	322,850	18,009	3,418	5,232	11.2
Fox	362,520	167,994	1,553	--	--	11.1
Coyote	461,578	176,078	14,282	652	--	11.0
Alaska fur bearers	1,890	568	301	305	--	12.9
Other	526,360	234,544	33,802	10,676	1,143	11.7
Bow hunters	1,174,099	723,769	92,581	14,592	1,889	12.4
Muzzle loader hunters	495,965	284,342	38,874	6,824	2,750	12.3
Pistol hunters	806,325	454,397	46,075	5,893	1,918	11.9

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[a] Introduction to hunting in general, not a particular species, game type, or using special weapons.

[b] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[c] Dashes indicate that no person in the sample reported introduction in this age.

Table 6 . Years of hunting experience[a] of hunting groups nation-wide, 1980.

Hunter segment[b]	Years hunting 1-9	10-19	20-98	Average years
	--------number of hunters--------			
Big game	3,194,252	3,396,379	5,104,558	19.5
Deer	3,093,823	3,299,921	4,899,158	19.4
Elk	158,851	203,079	390,791	21.7
Antelope	31,589	30,898	56,742	19.7
Moose	1,447	3,590	10,398	27.0
Bear	117,888	189,826	241,255	19.4
Turkey	274,049	447,006	744,986	22.1
Mountain goat	474	225	2,181	26.9
Mountain sheep	547	1,675	1,895	20.2
Alaska big game	11,578	18,325	15,757	17.4
Hawaii big game	10,100	5,331	4,196	12.6
Small game	3,980,263	3,453,114	5,037,220	19.0
Rabbit	2,467,415	2,222,252	2,796,470	17.6
Quail	924,986	1,056,276	1,628,318	19.7
Grouse	591,809	716,053	963,177	19.2
Chuckar	189,537	160,367	300,719	20.1
Squirrel	1,985,168	1,915,034	2,404,806	18.3
Pheasant	1,314,328	1,149,104	1,898,325	18.3
Alaska small game	7,566	14,311	10,841	16.3
Hawaii small game	8,496	1,765	2,329	11.4
Migratory birds	1,520,632	1,626,212	2,108,433	18.3
Geese	329,542	411,206	626,859	19.7
Duck	749,580	836,694	1,103,892	18.6
Coot, rail	43,251	42,687	47,708	16.7
Woodcock	135,390	187,488	165,157	17.2
Dove	835,649	953,633	1,197,723	18.2
Pigeon	19,065	21,082	44,444	18.6
Alaska migratory birds	3,410	10,008	6,871	17.6
Hawaii migratory birds	1,337	189	489	12.4
Other animals	747,773	852,645	1,000,789	18.3
Crow	161,830	150,762	160,196	16.4
Woodchuck	181,044	226,636	283,992	18.8
Raccoon	306,090	360,062	428,919	18.8
Fox	136,242	189,633	202,131	18.5
Coyote	184,054	225,218	237,133	[illegible]
Alaska fur bearers	878	984	1,317	17.9
Other	233,132	246,645	323,129	19.0
Bow hunters	527,215	755,455	722,113	16.9
Muzzle loader hunters	176,288	248,303	398,193	20.1
Pistol hunters	359,933	482,276	467,880	17.5

[a] Years spent hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

Table 7 Most important reason for hunting[a] given by hunter groups nation-wide, 1980.

Hunting segments[b]	Obtain meat	Problem animals	Friends family	Sport/ recr.	Close to nature	Obtain trophy	Other
	Number of hunters						
Big game hunters	3,036,154	40,739	1,145,688	6,191,235	1,075,764	154,577	51,388
Deer	2,901,720	40,343	1,111,557	5,986,566	1,048,998	152,827	50,257
Elk	310,261	591	54,339	307,280	58,829	19,305	2,369
Antelope	54,042	--	7,344	38,477	9,728	6,034	1,764
Moose	8,615	--	--	2,196	2,952	1,105	567
Bear	148,434	2,639	26,456	279,981	70,020	14,406	1,228
Turkey	303,103	3,104	137,307	829,147	167,325	17,804	7,799
Mountain goat	2,640	--	--	240	--	--	--
Mountain sheep	1,603	--	--	1,599	--	915	--
Alaska big game	32,423	--	841	9,262	2,466	92	284
Hawaii big game	10,480	--	1,678	6,495	1,425	--	--
Small game hunters	2,672,183	99,901	1,196,281	6,904,363	1,134,935	133,814	60,620
Rabbit	1,701,815	66,233	674,543	4,260,996	720,384	65,679	23,759
Quail	734,781	32,438	331,950	2,100,733	374,844	20,988	22,304
Grouse	469,838	5,157	213,910	1,285,949	256,086	16,486	14,012
Chukar	139,575	1,017	50,265	366,819	85,323	5,191	585
Squirrel	1,483,974	51,596	493,100	3,538,308	645,972	63,913	22,824
Pheasant	756,694	11,723	415,939	2,312,602	409,450	26,184	28,042
Alaska small game	19,144	--	723	8,434	3,725	--	294
Hawaii small game	7,643	290	484	3,987	186	--	--
Migratory bird hunters	1,039,671	24,884	526,467	3,074,421	515,799	60,559	16,294
Geese	224,278	6,097	125,315	838,855	145,868	19,887	4,257
Duck	540,104	8,896	242,296	1,611,773	246,325	33,525	5,875
Coot, rail	23,942	2,097	12,952	71,801	16,737	3,189	784
Woodcock	78,845	152	34,161	291,522	67,489	9,679	723
Dove	566,334	15,478	307,171	1,776,481	283,356	38,571	10,453
Pigeon	28,714	--	3,815	34,684	17,749	--	--
Alaska mig.birds	14,223	--	604	3,905	1,127	--	179
Hawaii mig.birds	409	--	--	1,846	--	--	--
Other animal hunters	593,405	84,644	205,896	1,423,716	252,255	[illegible]	20,526
Crow	89,533	14,061	46,205	237,407	76,546	[illegible]	4,487
Woodchuck	136,528	32,188	65,321	363,472	92,967	[illegible]	5,153
Raccoon	295,606	22,948	76,109	622,029	78,298	23,972	10,619
Fox	127,950	9,988	34,103	303,231	49,212	5,857	1,926
Coyote	183,464	16,619	37,472	329,358	62,576	13,982	6,202
Alaska fur bearers	2,085	--	99	717	278	--	--
Other	181,911	27,647	62,122	390,286	90,234	18,853	9,384
Bow hunters	480,903	11,043	124,314	1,054,216	298,045	45,340	8,293
Muzzle loader hunters	194,720	5,822	69,869	465,362	76,586	7,251	5,945
Pistol hunters	329,011	47,125	93,293	660,984	149,315	24,580	9,286

[a] Reasons for hunting in general, not hunting a particular species, game type or using special weapons.

[b] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 8   Second most important reason for hunting[a] given by hunter groups nation-wide, 1980

Hunter segments[b]	Obtain meat	Problem animals	Friends family	Sport/ recr.	Close to nature	Obtain trophy	Other
	Second most important reason[c]						
	Number of hunters						
Big game hunters	2,662,422	148,124	2,457,446	2,986,778	2,431,330	603,313	84,367
Deer	2,592,714	144,612	2,355,641	2,897,518	2,334,433	586,599	77,677
Elk	163,376	15,876	130,576	213,483	156,085	45,260	5,652
Antelope	30,125	2,870	17,856	40,999	17,819	5,675	238
Moose	4,204	1,174	620	5,872	320	2,240	--
Bear	118,016	10,394	120,405	141,978	111,020	29,261	343
Turkey	292,960	25,223	308,554	337,478	330,649	123,144	6,078
Mountain goat	57	--	622	2,018	183	--	--
Mountain sheep	620	--	471	1,566	654	756	--
Alaska big game	6,425	581	6,404	17,284	8,413	437	603
Hawaii big game	4,252	799	2,323	4,245	2,786	5,485	189
Small game hunters	2,717,080	218,338	2,836,258	2,959,856	2,604,188	440,474	117,702
Rabbit	1,726,653	164,208	1,652,091	1,854,741	1,577,842	278,622	67,266
Quail	826,578	72,729	923,835	852,998	719,264	108,437	22,546
Grouse	468,639	38,669	492,128	519,321	592,880	100,214	7,936
Chukar	142,935	12,174	142,782	166,072	153,359	22,286	3,481
Squirrel	1,483,652	130,572	1,274,043	1,557,720	1,388,228	268,042	56,828
Pheasant	875,779	76,380	1,021,933	935,390	975,955	157,792	22,478
Alaska small game	6,791	407	4,468	10,541	7,139	349	659
Hawaii small game	2,614	--	789	2,568	1,382	5,257	--
Migratory bird hunters	1,145,008	95,484	1,273,021	1,324,927	1,052,792	211,245	24,331
Geese	314,067	24,264	331,477	319,121	296,325	47,088	1,629
Duck	604,148	51,046	644,205	644,501	559,760	114,733	14,989
Coot, rail	30,497	6,574	30,582	31,141	26,494	4,493	214
Woodcock	108,012	10,694	81,805	125,930	118,910	31,323	--
Dove	655,671	55,299	748,162	740,261	580,752	121,182	9,983
Pigeon	17,314	619	25,831	22,020	9,578	--	--
Alaska mig.birds	2,081	407	2,706	6,764	5,129	72	--
Hawaii mig.birds	680	--	--	194	[illegible]	--	--
Other animal hunters	567,371	148,015	476,907	642,92[illegible]	548,[illegible]3	126,496	38,505
Crow	100,066	25,130	77,378	129,245	102,66[illegible]	31,323	2,643
Woodchuck	146,322	55,904	110,146	145,751	180,972	38,523	703
Raccoon	254,688	42,566	211,711	265,050	219,386	45,817	28,396
Fox	126,322	27,924	80,309	114,804	127,722	35,051	4,522
Coyote	142,225	48,534	113,085	164,538	131,819	29,131	4,240
Alaska fur bearers	823	--	309	702	978	--	367
Other	158,786	49,385	154,222	207,155	151,784	40,498	5,935
Bow hunters	468,205	21,991	383,393	482,003	480,441	143,089	5,315
Muzzle loader hunters	192,037	19,001	154,471	180,410	206,820	41,982	8,709
Pistol hunters	282,432	46,610	282,949	365,788	272,945	39,576	20,139

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[a] Reasons for hunting in general, not hunting a particular species, game type or using special weapons.

[b] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[c] Dashes indicate that no person in the sample reported information on this item.

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Table 9 . Days of hunting on public land by hunter groups defined by type of game, 1980.

Land Ownership	Hunter segment[a]			
	Big game	Small game	Migratory birds	Other animals[b]
Federally owned	17,400,000	8,981,000	2,589,000	1,766,000
State owned	14,954,000	12,286,000	4,351,000	1,663,000
Locally owned	9,113,000	12,396,000	3,778,000	2,767,000
Unknown onwership	4,415,000	4,456,000	1,602,000	858,000
Total days on public land	45,881,000	39,118,000	12,321,000	7,055,000

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[b] Includes crow, woodchuck, raccon, fox, coyote, and others.

Table 10. Expenditures made by hunter groups defined by type of game, 1980.

Hunter segment[a]	Expenses (thousands of dollars)		
	Travel[b]	Equipment	Access related[c]
Big game	1,444,237	861,607	57,228
Small game	867,508	650,804	13,718
Migratory birds	349,328	202,693	15,356
Other animals[d]	122,832	93,054	671

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear and be counted in more than one group.

[b] Includes food, lodging, and transportation costs.

[c] Includes guide fees, pack trip or package fees, and private or public land use or access fees.

[d] Includes crow, woodchuck, raccoon, fox, coyote, and others.

Table 11. Hunters and days of participation in regions nation-wide[a], hunter groups defined by species hunted, 1980

Hunter segment[b]	Region 1			Region 2			Region 3		
	Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]	
		Total	Mean		Total	Mean		Total	Mean
Deer	1,010,366	7,310,508	7	1,121,647	7,744,068	6	2,712,342	22,632,074	8
Elk	307,423	1,894,138	6	27,017	175,340	6	--	--	--
Antelope	16,568	86,726	5	5,667	31,711	5	--	--	--
Moose	2,095	10,480	5	--	--	--	567	5,111	9
Bear	87,810	828,138	9	17,990	110,104	6	48,364	350,738	7
Turkey	22,360	96,746	4	214,781	1,433,415	6	141,440	758,387	5
Mountain goat	474	474	1	--	--	--	--	--	--
Mountain sheep	1,598	15,044	9	--	--	--	--	--	--
Alaska big game	--	--	--	--	--	--	--	--	--
Hawaii big game	20,079	207,996	10	--	--	--	--	--	--
Rabbit	422,046	3,738,646	8	724,962	8,819,754	12	2,309,396	23,011,097	10
Quail	475,740	[illegible]	8	864,960	7,887,885	9	599,492	6,060,012	10
Grouse	219,567	..800,924	8	15,805	93,188	5	817,986	7,558,515	9
Chuckar	198,009	1,333,418	6	2,079	15,093	7	190,833	2,056,526	10
Squirrel	150,698	1,106,661	7	535,817	6,217,864	11	1,671,495	17,608,168	10
Pheasant	484,970	3,601,809	7	158,565	739,859	4	1,614,233	13,035,699	8
Alaska small game	--	--	--	--	--	--	--	--	--
Hawaii small game	12,590	230,637	18	--	--	--	--	--	--
Geese	198,115	1,820,894	9	110,601	688,887	6	452,386	3,798,504	8
Duck	378,329	3,129,317	8	301,032	2,216,123	7	698,723	5,808,945	8
Coot, rail	23,631	234,345	9	7,072	44,610	6	35,255	291,198	8
Woodcock	2,300	61,311	26	1,386	1,386	1	199,505	1,434,224	7
Dove	374,394	2,258,596	6	817,710	5,577,096	6	152,454	1,012,790	6
Pigeon	77,308	648,114	8	3,142	13,289	4	1,979	6,275	3
Alaska migratory birds	--	--	--	--	--	--	--	--	--
Hawaii migratory birds	2,055	18,869	9	--	--	--	--	--	--
Crow	26,260	344,123	13	63,649	518,881	8	88,841	980,689	11
Woodchuck	21,204	147,047	16	1,590	19,085	12	155,028	2,438,175	15
Raccoon	10,723	164,497	15	142,071	1,490,478	10	330,803	5,150,894	15
Fox	6,098	27,109	4	32,655	507,870	15	232,960	2,169,826	9
Coyote	106,825	870,326	8	171,476	2,320,151	13	150,209	1,997,785	13
Alaska fur bearers	--	--	--	--	--	--	--	--	--
Other	115,203	647,124	5	178,686	1,754,766	9	105,482	1,909,994	18

Table 11 Continued.

Hunter segment[b]	Region 4			Region 5			Region 6		
	Number of hunters[c]	Days[c] Total	Days[c] Mean	Number of hunters[c]	Days[c] Total	Days[c] Mean	Number of hunters[c]	Days[c] Total	Days[c] Mean
Deer	2,624,911	32,054,885	12	3,273,977	27,691,283	8	856,602	4,937,572	5
Elk	--	--	--	--	--	--	427,119	2,914,121	6
Antelope	--	--	--	--	--	--	97,340	367,738	3
Moose	--	--	--	6,074	28,743	4	5,076	54,465	10
Bear	54,378	307,341	5	306,914	1,893,931	6	33,502	311,654	9
Turkey	340,177	2,460,127	7	735,279	4,814,155	6	28,900	100,646	3
Mountain goat	--	--	--	--	--	--	2,134	7,163	3
Mountain sheep	--	--	--	--	--	--	2,381	21,939	9
Alaska big game	--	--	--	--	--	--	--	--	--
Hawaii big game	--	--	--	--	--	--	--	--	--
Rabbit	1,905,258	19,575,599	10	1,821,317	17,471,789	9	446,244	4,703,238	10
Quail	1,121,221	12,520,785	11	368,519	3,462,673	9	307,160	3,016,383	9
Grouse	78,315	468,780	5	926,667	9,118,009	9	240,261	1,824,246	7
Chuckar	8,439	37,200	4	156,781	1,713,531	10	100,567	1,026,921	10
Squirrel	2,428,750	25,692,170	10	1,464,872	13,779,451	9	136,583	1,553,639	11
Pheasant	22,116	85,655	3	1,189,716	10,514,482	8	791,298	6,512,529	8
Alaska small game	--	--	--	--	--	--	--	--	--
Hawaii small game	--	--	--	--	--	--	--	--	--
Geese	116,635	930,568	7	263,883	2,043,000	7	261,202	2,205,444	8
Duck	639,930	5,289,171	8	370,044	2,687,011	7	374,652	2,948,261	7
Coot, rail	31,905	298,353	9	17,572	141,852	8	18,640	187,958	10
Woodcock	77,061	636,215	8	211,571	1,619,775	7	625	1,251	2
Dove	1,224,356	6,823,243	5	273,745	1,723,340	6	203,123	1,358,685	6
Pigeon	2,549	4,073	1	371	5,574	15	5,443	106,960	19
Alaska migratory birds	--	--	--	--	--	--	--	--	--
Hawaii migratory birds	--	--	--	--	--	--	--	--	--
Crow	113,202	1,073,136	9	164,275	1,403,232	8	26,681	209,832	7
Woodchuck	77,138	1,490,428	19	444,976	6,239,327	14	13,443	107,605	8
Raccoon	359,225	6,467,998	18	236,135	4,387,984	18	46,094	735,966	15
Fox	61,727	993,027	16	137,479	1,424,681	10	68,162	886,153	13
Coyote	30,585	343,508	11	20,700	250,114	12	179,715	1,783,902	9
Alaska fur bearers	--	--	--	--	--	--	--	--	--
Other	232,368	3,229,237	13	80,236	1,005,865	12	104,365	1,406,598	13

Table 11 Continued

Hunter segment[b]	Region 7			Total[d]		
	Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]	
		Total	Mean		Total	Mean
Deer	4,101	15,550	3	11,400,000	102,496,000	9
Elk	--	--	--	760,000	4,984,000	7
Antelope	--	--	--	129,000	606,000	5
Moose	1,623	14,222	8	50,000	351,000	7
Bear	1,969	9,453	4	561,000	3,932,000	7
Turkey	--	--	--	1,471,000	9,875,000	7
Mountain goat	272	644	2	3,000	8,000	3
Mountain sheep	138	1,248	9	4,000	38,000	9
Alaska big game	46,250	569,262	12	46,000	569,000	12
Hawaii big game	--	--	--	20,000	208,000	10
Rabbit	754	4,904	6	7,581,000	78,794,000	10
Quail	--	--	--	3,671,000	36,929,000	10
Grouse	272	1,676	6	2,309 000	21,440,000	9
Chuckar	--	--	--	650,700	6,209,000	9
Squirrel	57	804	14	6,329,000	65,962,000	10
Pheasant	--	--	--	4,214,000	34,[illegible],000	8
Alaska small game	33,226	851,941	25	33,000	852,000	26
Hawaii small game	--	--	--	12,000	23,000	18
Geese	1,306	8,618	6	1,387,000	11,572,000	8
Duck	2,320	11,613	5	2,736,000	22,202,000	8
Coot, rail	--	--	--	134,000	1,190,000	9
Woodcock	--	--	--	491,000	3,754,900	8
Dove	318	956	3	3,026,000	18,775,000	6
Pigeon	--	--	--	86,000	784,000	9
Alaska migratory birds	20,289	203,096	10	20,000	203,000	10
Hawaii migratory birds	--	--	--	2,055	19,000	9
Crow	--	--	--	421,000	4,538,000	9
Woodchuck	--	--	--	707,000	10,441,000	15
Raccoon	--	--	--	1,103,000	18,329,000	16
Fox	184	1,849	10	536,300	6,032,000	11
Coyote	--	--	--	655,000	7 637,700	11
Alaska fur bearers	3,179	160,092	50	3000	160,010	53
Other	690	3,089	4	880,000	10,307,000	12

[a] U.S. Fish and Wildlife Service Regions. See Figure 1 for a map.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on hunting within the United States in hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Source of total numbers of hunters and days of participation: U.S. Fish and Wildlife Service and U.S. Bureau of the Census. 1980 National Survey of Fishing, Hunting and Wildlife-related Recreation. U.S. Government Printing Office, Washington, D.C., 1982

Table 12. Days of participation by special weapon hunters,1980.

Hunter segment[a]	Game hunted				Number of hunters
	Big game	Small game	Migratory birds	Other game[b]	
	--------------------days of participation----------------------				
Bow/arrow	15,207,097	1,144,038	78,580	111,034	2,015,000
Muzzle Loader	3,044,262	1,263,554	208,046	502,131	833,000
Pistol	1,864,555	5,471,559	57,800	2,543,830	1,315,000

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear and be counted in more than one group.

[b] Includes crow, woodchuck, raccoon, fox, coyote, and others.

Table 13 Number of trips and days of participation in regions nation-wide[a], angler groups defined by type of fishing, 1980

Angler/segment[b]	Trips[c]	Days[c] Total	Days[c] Mean	No. of fishermen[c]
Region 1				
Great Lakes	--	--	--	--
Freshwater	63,210,217	77,820,210	16	4,825,723
Saltwater	25,514,255	27,255,928	9	2,976,668
Region 2				
Great Lakes	--	--	--	--
Freshwater	55,651,648	67,357,432	16	4,017,106
Saltwater	15,949,684	17,731,862	17	1,037,500
Region 3				
Great Lakes	29,249,024	33,090,225	13	2,511,398
Freshwater	159,138,424	185,498,098	18	10,047,554
Saltwater	1,888	762	--	1,855
Region 4				
Great Lakes	--	--	--	--
Freshwater	176,031,496	190,419,644	19	9,573,225
Saltwater	41,886,961	49,263,466	11	4,272,745
Region 5				
Great Lakes	6,469,976	7,441,641	14	525,364
Freshwater	91,605,323	100,268,805	17	5,888,165
Saltwater	45,154,562	49,120,555	12	3,947,750
Region 6				
Great Lakes	--	--	--	--
Freshwater	35,482,397	44,640,095	14	3,044,777
Saltwater	930	1,070	1	930
Region 7				
Great Lakes	--	--	--	--
Freshwater	1,912,582	2,398,469	14	169,916
Saltwater	777,764	1,002,198	9	105,722
Total[d]				
Great Lakes	35,720,000			3,016,000
Freshwater	584,811,000			35,328,000
Saltwater	130,667,000			12,344,000

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[a] U.S. Fish and Wildlife Service Regions. See Figure 1 for a map.

[b] Angler segments defined by type of fishing. Groups are not mutually exclusive in that a fisherman could appear and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on fishing within the United States and in anglers' five most often fished locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Source: U.S. Fish and Wildlife Service and U.S. Bureau of the Census. 1980 National Survey of Fishing, Hunting and Wildlife-Associated Recreation. U.S. Government Printing Office, Washington, D.C., 1982.

Table 14. Days of participation in regions nation-wide[a], angler groups defined by species fished, 1980

	Region 1			Region 2			Region 3			Region 4		
	Number of	Days		Number of	Days		Number of	Days		Number of	Days	
Angler segment[b]	fishermen	Total	Mean	fishermen	Total	Mean	fishermen	Total	Mean	fishermen	Total	Mean
Bass	1,632,842	24,800,021	15	2,525,771	42,320,409	16	5,593,028	102,251,156	18	5,656,958	109,890,322	19
Panfish	1,357,079	21,741,735	16	2,011,068	33,677,049	16	7,786,725	137,753,766	17	6,029,574	100,060,653	17
Catfish	1,513,069	22,390,053	15	2,227,832	35,217,299	15	3,716,429	69,595,890	18	4,154,691	72,512,106	17
Walleye	35,868	510,277	14	129,016	1,631,172	12	3,339,701	53,721,918	16	324,520	4,612,773	14
Pike	17,133	66,334	3	55,028	347,609	6	2,874,668	43,116,090	14	189,525	3,004,025	17
Trout	3,614,584	46,335,606	12	625,298	5,832,923	9	1,666,053	20,285,171	12	761,613	9,290,081	12
Salmon	1,470,256	17,472,211	11	26,250	103,115	3	923,193	9,485,370	10	15,061	136,636	9
Rockfish	1,115,014	12,330,928	11	282,711	4,827,438	17	232,868	5,361,439	23	915,512	13,095,330	15

	Region 5			Region 6			Region 7			Total	
	Number of	Days		Number of	Days		Number of	Days		Number of	Days
Angler segment[b]	fishermen	Total	Mean	fishermen	Total	Mean	fishermen	Total	Mean	fishermen	Total
Bass	3,634,042	54,600,217	15	836,038	12,910,347	15	234	365	1	19,679,000	366,309,000
Panfish	2,632,067	45,772,852	17	803,761	12,334,616	15	8,243	50,054	6	20,628,000	359,768,000
Catfish	1,740,194	30,660,159	17	804,759	11,967,528	14	222	11,117	50	14,157,000	243,374,000
Walleye	657,653	10,405,699	15	591,013	7,720,900	13	8,990	54,146	6	5,087,000	78,657,000
Pike	1,267,031	18,757,169	14	366,842	5,239,529	14	21,429	233,605	10	4,792,000	71,165,000
Trout	3,109,079	48,979,353	15	1,814,474	21,553,588	11	95,176	1,091,444	11	11,666,000	153,376,000
Salmon	434,496	5,100,327	11	94,213	729,842	7	183,367	2,408,203	13	3,147,000	35,436,000
Rockfish	1,460,535	19,312,563	13	97,106	1,879,988	19	10,279	123,362	12	4,114,000	57,731,000

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[a] U.S. Fish and Wildlife Service Regions. See Figure 1 for a map.

[b] Angler segments defined by species fished. Includes both freshwater and saltwater species. Groups are not mutually exclusive in that a fisherman could appear and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on fishing within the United States and in anglers' five most often fished locations.

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Table 15. Age of introduction[a] and years of fishing[b] for angler groups defined by type of fishing and fish species, 1980.

Angler segment[c]	Age of introduction						Years fishing			
	01-12	13-19	20-29	30-39	40-98	Ave. age	01-09	10-19	20-98	Ave. years
	number of fishermen						number of fishermen			
Great Lakes	2,466,999	290,581	146,816	54,359	44,516	9.6	483,584	871,587	1,650,617	23.2
Freshwater	28,346,023	3,638,795	1,806,681	686,607	620,881	10.1	6,402,166	10,409,109	18,169,656	22.4
Saltwater	9,632,158	1,267,151	606,916	257,778	251,657	10.3	2,190,236	3,460,973	6,345,142	22.4
Bass	20,792,121	2,119,180	963,737	339,432	320,652	9.2	3,450 703	7,511,480	13,527,856	23.2
Pan fish	21,225,195	2,373,898	1,217,598	365,130	421,073	9.6	3,536,092	7,239,431	14,801,337	24.2
Catfish	13,576,076	1,574,104	763,404	213,930	207,898	9.4	2,525,558	4,936,794	8,812,646	23.0
Walleye	5,477,850	527,318	225,763	104,020	97,693	9.2	645,141	1,812,518	3,973,852	25.1
Pike	5,059,722	492,902	218,692	88,534	45,420	8.9	662,729	1,892,776	3,345,705	23.7
Trout	12,858,180	1,267,046	624,173	190,939	147,323	9.0	2,320,820	4,792,105	7,947,156	22.7
Salmon	3,363,695	265,537	139,330	44,018	51,299	8.7	394,976	1,154,645	2,306,677	24.6
Rock fish	4,173,183	521,194	171,785	61,448	52,523	9.2	563,292	1,575,665	2,012,006	23.6

[a] Introduction to fishing in general, not fishing a particular species or type of waters.

[b] Years spent fishing in general, not fishing a particular species or type of waters.

[c] Angler segments defined by type of fishing and species fished. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

Table 16. Locations most frequently fished by angler groups defined by type of fishing, 1980.

Angler segment[a]	Freshwater				Saltwater		
	Large Res.	Small Res.	Lakes	Rivers/Str.	Deep sea	Surf/Shore	Sounds
	Number of Fishermen						
Freshwater	14,524,000	8,286,000	14,579,000	15,757,000			
Saltwater					4,608,000	6,737,000	5,325,000

[a] Angler segments defined by type of fishing and species fished. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

Table 17. Expenditures by angler groups defined by type of fishing, 1980.

	Expenses (in thousands of dollars)		
Angler segment[a]	Travel	Equipment	Access related[c]
Great Lakes	341,386	NA	23,903
Freshwater	5,035,363	1,585,696	146,270
Saltwater	1,537,024	635,354	141,321

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[a] Angler segments defined by type of fishing. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

[b] Includes food, lodging, and transportation costs.

[c] Includes guide fees, pack trip or package fees, and private and public land use or access fees.

Table 18. Days of participation, specialty fishing anglers, 1980.

Angler segment[a]	In-state	Out-of-state	Total	Number of anglers[b]
Spear	2,252,000	293,000	2,544,000	441,000
Net	6,039,000	477,000	6,517,000	1,163,000
Ice	11,439,000	484,000	11,922,000	1,992,000
Bow	1,260,000	160,000	1,420,000	293,000
Gigging for frogs	3,885,000	270,000	4,155,000	974,000

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[a] Angler segments defined by type of specialty fishing. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

[b] Source: U.S. Fish and Wildlife Service and U.S. Bureau of Census. 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. U.S. Government Printing Office, Washington, D.C., 1982.

Table 19. Age of introduction[a] and years of fishing[b] for angler groups defined by specialty fishing, 1980.

Angler segment[c]	Age of introduction[d] 01-12	13-19	20-29	30-39	40-98	Ave. age	Years of fishing 01-09	10-19	20-98	Ave. years
	number of anglers						number of anglers			
Spear	392,040	32,983	9,814	5,789	--	7.6	55,106	171,560	187,525	18.6
Net	1,037,839	82,376	24,460	10,962	3,327	8.1	164,184	420,803	558,595	20.6
Ice	1,721,424	137,749	75,576	37,059	11,915	8.6	174,427	631,176	1,179,898	24.5
Bow	268,576	11,088	6,941	5,789	--	7.6	19,059	138,101	134,697	19.3
Gigging for frogs	898,838	52,045	12,728	7,108	2,917	7.8	159,999	406,988	404,474	18.9

[a] Introduction to fishing in general, not fishing a particular species or type of waters.

[b] Years spent fishing in general, not fishing a particular species or type of waters.

[c] Angler segments defined by type of specialty fishing. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

[d] Dashes indicate that no person in the sample reported information on this item.

Appendix 3: Region 6 Data

Table 105. Selected characteristics, Region 6[a] sportsmen and nonsportsmen, 1980.

Characteristic	Sportsmen[b] (percent)	Nonsportsmen[c] (percent)
Marital Status[d]		
Married	66.2	59.4
Widowed	1.9	8.6
Divorced	5.0	6.1
Separated	.7	1.0
Never Married	26.1	24.9
Sex[e]		
Male	69.3	36.3
Female	30.7	63.7
Education[e]		
None	.1	.5
Kindergarten	.9	.8
Elementary	21.9	22.3
High school	42.9	43.1
College	34.2	33.3
Average age[e]	31.6 years	37.8 years
Population growing up[f]		
Large urban	11.3	12.6
Medium urban	16.0	18.1
Small city	16.8	15.6
Small town	19.6	16.9
Rural	36.2	36.8
Employed[f,g]		
Yes	70.3	54.1
No	29.7	45.9
Race[e]		
White	95.9	92.7
Black	1.3	3.2
American Indian, Aleut, Eskimo	1.4	2.1
Asian, Pacific Islander	1.0	1.3
Other	.4	.7
Site of residence[e]		
Urban	58.5	65.2
Rural	41.5	34.8
Average household size[e]	3.6 persons	3.4 persons

[a] U.S. Fish and Wildlife Service Regions, see Figure 1. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah and Wyoming.

[b] U.S. population age 6 years old and older who hunted or fished in 1980.

[c] U.S. population age 6 years old and older who did no hunting or fishing in 1980.

[d] Persons 14 years old and older.

[e] Persons 6 years old and older.

[f] Persons 16 years old and older.

[g] Have a job or own a business. Excludes persons who are retired, going to school, or keeping house.

Table 10A. Number of trips and days of participation in regions nation-wide, region 6[a] hunter groups defined by type of game, 1980

Hunter segment[b]	Trip[c]	Days Total	Days Mean	No. of hunters
Region 1				
Big game	9,279	29,777	6	4,305
Small game	54,944	64,848	8	9,272
Migratory birds	10,280	17,103	6	2,472
Other animals[d]	3,660	6,411	2	3,040
Region 2				
Big game	12,740	17,848	2	6,589
Small game	56,603	59,924	8	6,865
Migratory birds	31,723	31,723	8	3,738
Other animals[d]	70,795	71,913	55	1,304
Region 3				
Big game	37,626	66,356	4	14,733
Small game	164,947	190,927	7	24,495
Migratory birds	78,316	89,822	7	12,582
Other animals[d]	9,922	11,019	13	3,099
Region 4				
Big game	915	1,264	8	143
Small game	4,899	4,899	8	612
Migratory birds	6,009	6,605	8	738
Other animals[d]	--	--	--	--
Region 5				
Big game	8,087	19,018	9	2,043
Small game	14,759	20,799	10	1,923
Migratory birds	382	1,530	8	191
Other animals[d]	382	11,480	60	191
Region 6				
Big game	3,920,032	5,448,717	6	794,889
Small game	9,389,884	9,811,672	11	895,687
Migratory birds	3,729,071	3,757,209	8	430,541
Other animals[d]	2,876,320	2,979,623	12	238,955
Region 7				
Big game	329	1,908	5	329
Small game	196	393	2	196
Migratory birds	--	--	--	--
Other animals[d]	-	--	--	--
Total				
Big game	3,979,000			820,000
Small game	9,646,000			924,000
Migratory birds	3,856,000			446,000
Other animals	2,961,000			246,000

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[a] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on hunting within the United States in hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Includes crow, woodchuck, raccoon, fox, coyote, and others.

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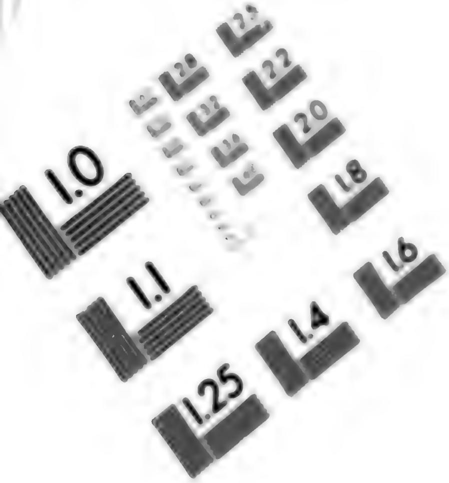

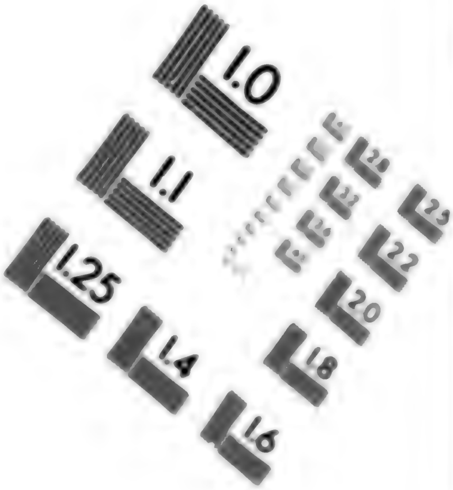

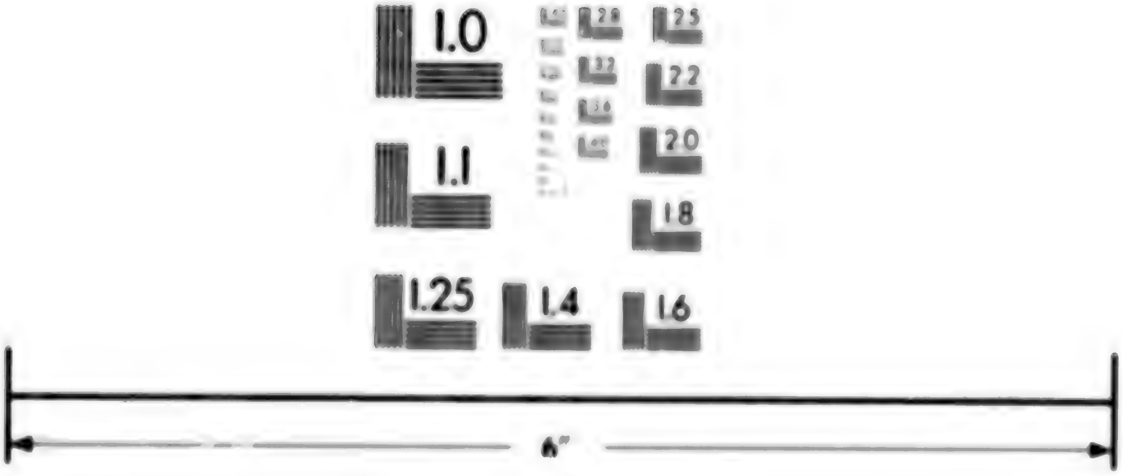

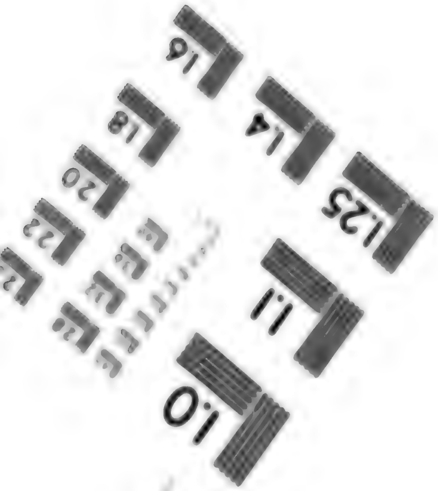

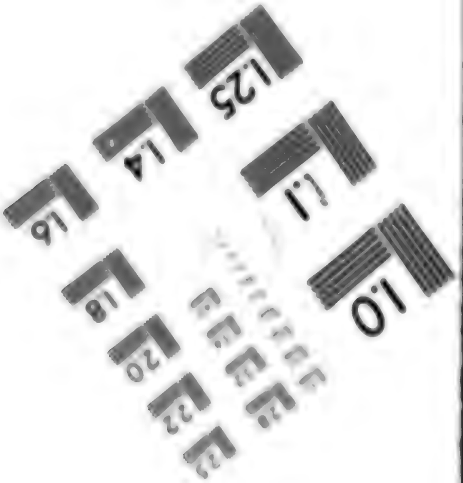

Table 107. Age of introduction to hunting[a] for Region 6[b] hunter groups, 1980.

Hunter segment[c]	Age of introduction[d]					Average age
	01-12	13-19	20-29	30-39	40-98	
	Number of hunters					
Big game	392,940	320,184	70,332	15,800	8,267	13.7
Deer	352,239	281,647	63,608	14,107	5,368	13.6
Elk	158,384	117,381	26,460	4,613	1,753	13.1
Antelope	44,052	26,906	8,303	2,878	2,899	14.8
Moose	3,041	1,428	--	--	--	10.8
Bear	16,146	8,508	--	--	--	11.3
Turkey	18,012	9,345	891	367	--	12.0
Mountain goat	2,134	--	--	--	--	8.8
Mountain sheep	1,899	1,609	--	--	--	11.4
Alaska big game	329	--	--	--		7.2
Hawaii big game	--	--	--	--	--	--
Small game	529,869	336,494	46,701	4,427	1,465	12.4
Rabbit	254,855	144,834	22,194	1,724	1,465	12.2
Quail	177,511	76,029	4,514	--	--	11.2
Grouse	149,159	69,240	11,653	1,445	--	12.0
Chukar	61,498	30,957	4,262	652	--	12.0
Squirrel	81,925	46,965	5,557	1,267	--	12.1
Pheasant	397,286	232,375	27,396	3,101	1,250	12.2
Alaska small game	196	--	--	--	--	8.0
Hawaii small game	--	--	--	--	--	--
Migratory birds	290,303	135,959	16,132	1,356	--	11.7
Geese	158,454	68,368	7,197	288	--	11.4
Duck	216,588	95,722	11,518	989	--	11.6
Coot, rail	12,246	3,463	--	--	--	11.0
Woodcock	2,272	275	--	--	--	10.8
Dove	124,554	50,436	5,771	655	--	11.4
Pigeon	1,239	317	--	--	--	8.4
Alaska migratory birds	--	--	--	--	--	--
Hawaii migratory birds	--	--	--	--	--	--
Other animals	155,889	81,606	6,131	1,353	1,143	11.9
Crow	15,371	11,425	730	--	--	11.8
Woodchuck	9,775	2,137	--	--	--	9.9
Raccoon	29,705	14,123	568	652	--	11.4
Fox	46,251	21,748	436	--	--	11.1
Coyote	112,470	53,719	3,099	652	--	11.4
Alaska fur bearers	--	--	--	--	--	--
Other	62,893	28,110	5,214	1,353	1,143	12.5
Bow hunters	60,299	23,707	1,714	976	--	11.3
Muzzle loader hunters	18,001	12,145	5,657	1,171	--	13.5
Pistol hunters	88,504	18,770	3,179	701	--	10.5

[a] Introduction to hunting in general, not a particular species, game type, or using special weapons

[b] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[c] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group

[d] Dashes indicate that no person in the sample reported information on this

Table 108 Years of hunting experience[a], Region 6[b] hunter groups, 1980.

Hunter segment[c]	Years hunting[d] 1-9	10-19	20-98	Average years
	-------number of hunters-------			
Big game	253,328	234,750	319,401	17.8
Deer	221,707	212,648	282,753	17.7
Elk	90,575	86,911	132,888	18.8
Antelope	25,959	25,364	33,369	18.1
Moose	652	1,425	2,392	23.9
Bear	2,473	10,290	11,891	19.9
Turkey	3,839	13,360	11,416	18.9
Mountain goat	--	225	1,909	31.3
Mountain sheep	547	1,204	1,757	21.3
Alaska big game	--	--	329	37.2
Hawaii big game	--	--	--	--
Small game	281,989	279,068	357,446	18.2
Rabbit	160,843	136,252	127,977	15.3
Quail	67,963	85,775	104,316	18.9
Grouse	57,579	77,652	96,266	18.9
Chuckar	25,136	34,934	37,299	17.5
Squirrel	57,097	40,693	37,924	14.5
Pheasant	189,367	206,245	265,343	18.5
Alaska small game	--	--	196	33.1
Hawaii small game	--	--	--	--
Migratory birds	133,358	137,252	172,161	18.3
Geese	56,378	68,747	109,182	19.9
Duck	97,854	105,491	121,126	17.9
Coot, rail	4,763	8,581	2,365	14.8
Woodcock	561	1,170	816	14.0
Dove	58,134	57,978	64,671	17.3
Pigeon	317	620	619	17.5
Alaska migratory birds	--	--	--	--
Hawaii migratory birds	--	--	--	--
Other animals	71,761	93,632	80,729	16.8
Crow	8,286	9,715	9,525	17.1
Woodchuck	1,195	5,185	5,532	21.7
Raccoon	15,362	14,196	15,490	16.0
Fox	16,723	26,075	25,637	17.5
Coyote	48,641	67,213	54,086	16.5
Alaska fur bearers	--	--	--	--
Other	25,236	32,286	41,191	18.7
Bow hunters	22,040	31,950	31,456	16.8
Muzzle loader hunters	11,944	12,987	12,043	15.5
Pistol hunters	29,415	40,948	40,791	17.4

[a] Years spent hunting in general, not hunting a particular species, game type, or using special weapons.

[b] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[c] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 109. Most important reason for hunting[a] given by Region 6[b] hunter groups, 1980.

Hunter segments[c]	Most important reason[d]						
	Obtain meat	Problem animals	Friends family	Sport/ recr.	Close to nature	Obtain trophy	Other
	Number of hunters						
Big game hunters	335,133	4,947	84,344	329,512	38,593	8,325	4,034
Deer	299,549	4,551	75,987	289,554	33,067	8,066	3,287
Elk	152,001	591	20,614	112,870	18,504	4,515	1,045
Antelope	40,405	--	3,444	31,142	5,406	1,419	1,036
Moose	2,752	--	--	599	231	320	567
Bear	12,760	1,042	550	7,045	2,066	1,191	--
Turkey	6,119	--	3,535	16,016	3,093	125	--
Mountain goat	1,951	--	--	183	--	--	--
Mountain sheep	994	--	--	1,599	--	915	--
Alaska big game	--	--	--	379	--	--	--
Hawaii big game	--	--	--	--	--	--	--
Small game hunters	204,135	12,253	102,334	522,247	61,158	4,316	6,825
Rabbit	109,530	9,253	36,026	228,090	31,230	3,133	1,875
Quail	34,578	430	29,041	167,776	22,038	--	784
Grouse	68,946	1,739	17,438	124,151	12,605	2,534	2,578
Chuckar	16,900	587	8,037	63,342	6,917	1,859	--
Squirrel	34,850	1,839	14,228	66,888	14,620	--	1,368
Pheasant	125,232	3,890	79,059	398,040	43,199	3,359	5,417
Alaska small game	--	--	--	196	--	--	--
Hawaii small game	--	--	--	--	--	--	--
Migratory bird hunters	90,856	2,469	37,734	277,951	29,531	1,522	948
Geese	44,403	587	22,622	147,506	16,716	847	784
Duck	67,246	1,623	23,381	205,694	22,083	1,522	948
Coot, rail	3,941	--	648	8,747	--	111	784
Woodcock	58	--	--	2,298	191	--	--
Dove	37,335	866	15,843	105,717	18,681	761	784
Pigeon	--	--	620	317	619	--	--
Alaska mig. birds	--	--	--	--	--	--	--
Hawaii mig. birds	--	--	--	--	--	--	--
Other animal hunters	68,817	11,657	13,997	121,639	18,901	2,016	5,789
Crow	4,308	157	652	18,605	2,385	635	784
Woodchuck	5,668	1,088	--	3,025	333	320	--
Raccoon	8,495	945	4,133	26,262	2,783	1,079	1,351
Fox	18,633	2,072	1,651	39,278	3,757	1,360	1,684
Coyote	52,678	4,837	5,707	81,751	14,656	1,930	5,474
Alaska fur bearers	--	--	--	--	--	--	--
Other	29,372	6,397	2,336	47,056	4,652	320	1,151
Bow hunters	23,750	477	6,380	40,753	9,139	1,780	1,515
Muzzle loader hunters	11,412	--	4,519	17,490	1,667	538	107
Pistol hunters	30,996	5,228	7,609	53,118	9,217	1,025	3,837

[a] Reasons for hunting in general, not hunting a particular species, game type or using special weapons.

[b] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[c] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 110. Second most important reason for hunting[a] given by Region 6[b] hunter groups, 1980.

Hunter segments[c]	Obtain meat	Problem animals	Friends family	Sport/ recr.	Close to nature	Obtain trophy	Other
	Second most important reason[d]						
	Number of hunters						
Big game hunters	184,493	15,117	165,016	251,154	142,742	25,446	5,947
Deer	163,577	13,697	147,710	220,692	127,315	22,768	4,097
Elk	71,959	3,431	51,924	107,004	57,602	10,398	1,914
Antelope	19,706	1,294	12,886	33,277	9,947	3,707	208
Moose	477	--	530	1,982	320	258	--
Bear	4,807	524	1,756	10,176	4,445	2,346	--
Turkey	5,041	136	4,191	7,136	8,556	1,844	1,377
Mountain goat	--	--	545	1,406	183	--	--
Mountain sheep	630	--	471	1,428	183	796	--
Alaska big game	329	--	--	--	--	--	--
Hawaii big game	--	--	--	--	--	--	--
Small game hunters	203,749	28,198	249,379	[illegible]	172,024	23,207	7,300
Rabbit	92,544	22,800	98,309	[illegible]	77,219	11,181	3,481
Quail	55,696	3,586	79,922	[illegible]	60,877	4,419	648
Grouse	56,124	5,275	50,192	[illegible]	41,482	7,556	2,224
Chuckar	19,656	2,887	23,767	20,962	23,869	5,539	157
Squirrel	24,510	11,131	26,358	37,406	29,080	5,223	--
Pheasant	147,945	19,606	195,133	143,340	129,997	14,717	3,114
Alaska small game	196	--	--	--	--	--	--
Hawaii small game	--	--	--	--	--	--	--
Migratory bird hunters	103,729	16,334	117,259	103,400	80,442	12,535	1,598
Geese	58,423	6,119	54,127	56,287	47,010	8,555	--
Duck	84,317	12,467	78,086	71,621	61,539	9,327	950
Coot, rail	2,260	2,254	1,128	3,536	4,637	418	--
Woodcock	780	--	911	58	798	--	--
Dove	33,973	7,106	52,916	47,562	30,093	5,445	648
Pigeon	--	619	--	620	317	--	--
Alaska mig.birds	--	--	--	--	--	--	--
Hawaii mig.birds	--	--	--	--	--	--	--
Other animal hunters	54,817	21,459	40,403	66,636	40,552	13,263	1,465
Crow	7,972	1,974	4,337	4,489	6,550	2,204	--
Woodchuck	1,239	943	1,225	2,398	3,698	669	261
Raccoon	12,139	4,154	5,830	12,145	5,956	4,685	139
Fox	16,603	6,047	14,132	12,702	11,653	5,662	1,326
Coyote	35,775	14,513	27,224	43,969	32,408	9,789	909
Alaska fur bearers	--	--	--	--	--	--	--
Other	15,429	13,905	14,187	30,438	15,063	3,227	847
Bow hunters	19,395	2,487	10,617	22,783	22,704	5,236	--
Muzzle loader hunters	7,718	127	7,777	11,706	6,155	2,367	--
Pistol hunters	20,492	14,674	16,171	30,494	21,284	6,288	1,258

[a] Reasons for hunting in general, not hunting a particular species, game type or using special weapons.

[b] U.S. Fish and Wildlife Service Regions. States include Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[c] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 111. Days of hunting on public land by Region 6[a] hunter groups defined by type of game, 1980.

	Hunter segment[b]			
Land ownership	Big game	Small game	Migratory birds	Other animals[c]
Federally owned	2,616,340	852,539	388,065	241,912
State owned	459,784	776,348	481,349	222,251
Locally owned	379,727	989,528	401,269	323,696
Unknown ownership	352,568	356,964	169,809	121,874
Total days on public land	3,808,419	2,975,379	1,440,492	909,733

[a] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[c] Includes crow, woodchuck, raccoon, fox, coyote, and others.

Table 112. Expenditures made by Region 6[a] hunter groups defined by type of game, 1980.

	Expenses (thousands of dollars)		
Hunter segment[b]	Travel[c]	Equipment	Access related[d]
Big game	93,908	57,139	4,094
Small game	88,282	45,929	1,124
Migratory birds	33,996	21,155	1,223
Other animals[e]	11,449	6,169	2,043

[a] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear and be counted in more than one group.

[c] Includes food, lodging, and transportation costs.

[d] Includes guide fees, pack trip or package fees, and public and private land use or access fees.

[e] Includes crow, woodchuck, raccoon, fox, coyote, and others.

Table 113.--Hunters and days of participation in regions nation-wide, Region6[a] hunter groups defined by species hunted, 1980

Hunter segment[b]	Region 1			Region 2			Region 3		
	Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]	
		Total	Mean		Total	Mean		Total	Mean
Deer	3,253	16,499	5	2,700	7,201	2	13,304	56,060	4
Elk	1,996	8,967	4	269	808	3	--	--	--
Antelope	--	--	--	--	--	--	--	--	--
Moose	--	--	--	--	--	--	567	5,111	9
Bear	1,052	12,361	11	--	--	--	609	3,361	5
Turkey	--	--	--	3,369	7,344	2	1,137	6,824	6
Mountain goat	--	--	--	--	--	--	--	--	--
Mountain sheep	1,127	12,218	10	--	--	--	--	--	--
Alaska big game	--	--	--	--	--	--	--	--	--
Hawaii big game	--	--	--	--	--	--	--	--	--
Rabbit	3,640	41,859	11	3,167	9,192	2	14,705	110,406	7
Quail	430	1,518	3	2,234	8,887	3	7,986	24,036	3
Grouse	1,005	32,807	32	834	1,669	2	2,695	29,897	11
Chuckar	499	4,755	9	183	550	3	1,613	11,772	7
Squirrel	805	34,714	43	439	439	1	8,199	73,755	8
Pheasant	4,943	17,908	3	2,024	9,758	4	13,878	101,189	7
Alaska small game	--	--	--	--	--	--	--	--	--
Hawaii small game	--	--	--	--	--	--	--	--	--
Geese	1,554	5,641	3	572	2,290	4	4,936	76,069	15
Duck	2,472	13,793	5	1,891	17,457	9	8,994	59,569	6
Coot, rail	--	--	--	--	--	--	--	--	--
Woodcock	--	--	--	--	--	--	1,673	4,705	2
Dove	430	2,969	6	2,991	18,846	6	804	4,896	6
Pigeon	317	317	1	--	--	--	--	--	--
Alaska migratory birds	--	--	--	--	--	--	--	--	--
Hawaii migratory birds	--	--	--	--	--	--	--	--	--
Crow	--	--	--	--	--	--	654	779	1
Woodchuck	--	--	--	--	--	--	--	--	--
Raccoon	142	142	1	--	--	--	1,466	36,664	25
Fox	619	1,239	2	--	--	--	1,896	38,384	20
Coyote	2,898	6,127	2	603	1,811	3	298	597	2
Alaska fur bearers	--	--	--	--	--	--	--	--	--
Other	--	--	--	1,644	71,737	43	538	2,122	3

Table 113. Continued

Hunter segment[b]	Region 4			Region 5			Region 6		
	Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]	
		Total	Mean		Total	Mean		Total	Mean
Deer	143	1,264	8	2,043	13,482	6	707,889	3,967,413	5
Elk	--	--	--	--	--	--	313,558	2,137,101	6
Antelope	--	--	--	--	--	--	85,038	251,525	2
Moose	--	--	--	--	--	--	3,902	30,985	7
Bear	--	--	--	120	120	1	22,873	251,961	11
Turkey	--	--	--	1,524	5,536	3	24,733	79,866	3
Mountain goat	--	--	--	--	--	--	2,138	7,163	3
Mountain sheep	--	--	--	--	--	--	2,381	21,939	9
Alaska big game	--	--	--	--	--	--	--	--	--
Hawaii big game	--	--	--	--	--	--	--	--	--
Rabbit	612	4,899	8	341	5,458	16	411,308	4,259,867	10
Quail	143	2,529	17	399	4,269	10	254,689	2,569,324	10
Grouse	--	--	--	1,674	5,363	3	226,801	1,729,355	7
Chuckar	--	--	--	--	--	--	95,730	994,086	10
Squirrel	368	3,432	9	191	5,740	30	129,825	1,529,542	11
Pheasant	--	--	--	1,333	1,333	1	648,974	5,554,581	8
Alaska small game	--	--	--	--	--	--	--	--	--
Hawaii small game	--	--	--	--	--	--	--	--	--
Geese	653	2,001	3	--	--	--	230,041	2,023,818	8
Duck	653	1,410	2	--	--	--	316,759	2,586,736	8
Coot, rail	58	815	14	--	--	--	15,709	118,120	7
Woodcock	58	815	14	191	1,148	6	625	1,251	2
Dove	738	4,224	5	--	--	--	179,860	1,172,026	6
Pigeon	--	--	--	--	--	--	1,239	1,860	1
Alaska migratory birds	--	--	--	--	--	--	--	--	--
Hawaii migratory birds	--	--	--	--	--	--	--	--	--
Crow	--	--	--	191	11,480	60	76,681	709,832	7
Woodchuck	--	--	--	191	11,480	60	11,721	94,717	8
Raccoon	--	--	--	--	--	--	43,440	722,694	16
Fox	--	--	--	--	--	--	66,539	878,033	13
Coyote	--	--	--	--	--	--	167,732	1,677,118	9
Alaska fur bearers	--	--	--	--	--	--	--	--	--
Other	--	--	--	191	3,826	20	96,534	1,300,988	13

Table 13. Continued

Hunter segment[b]	Region 7			Total		
	Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]	
		Total	Mean		Total	Mean
Deer	--	--	--	729,329	4,062,719	6
Elk	--	--	--	315,063	2,186,956	7
Antelope	--	--	--	85,038	251,525	3
Moose	--	--	--	4,469	36,096	8
Bear	--	--	--	24,654	267,003	11
Turkey	--	--	--	30,763	99,170	3
Mountain goat	--	--	--	2,134	7,163	3
Mountain sheep	--	--	--	3,500	34,157	10
Alaska big game	329	4,658	14	329	4,658	14
Hawaii big game	--	--	--	--	--	--
Rabbit	--	--	--	433,783	4,431,601	10
Quail	--	--	--	265,881	2,610,563	10
Grouse	--	--	--	233,009	1,799,001	8
Chukar	--	--	--	94,025	1,011,163	10
Squirrel	--	--	--	138,827	1,647,622	12
Pheasant	--	--	--	671,152	5,604,769	8
Alaska small game	196	393	2	196	393	2
Hawaii small game	--	--	--	--	--	--
Geese	425	2,126	5	238,181	2,112,585	9
Duck	425	425	1	331,194	2,679,390	8
Coot, rail	--	--	--	15,767	118,983	8
Woodcock	--	--	--	2,547	7,919	3
Dove	--	--	--	164,623	1,202,961	7
Pigeon	--	--	--	1,556	2,177	1
Alaska migratory birds	--	--	--	--	--	--
Hawaii migratory birds	--	--	--	--	--	--
Crow	--	--	--	27,526	222,091	8
Woodchuck	--	--	--	11,912	106,197	9
Raccoon[d]	--	--	--	45,048	759,500	17
Fox	--	--	--	69,054	917,656	13
Coyote	--	--	--	171,531	1,685,653	10
Alaska fur bearers	--	--	--	--	--	--
Other	--	--	--	93,904	1,378,683	14

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[a] U.S. Fish and Wildlife Service Regions. States include Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on hunting within the United States in hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 114. Days of participation, Region 6[a] special weapon hunters, 1980.

Hunter segment[b]	Game hunted				Number of hunters
	Big game	Small game	Migratory birds	Other game[c]	
	--------------------days of participation--------------------				
Bow/arrow	577,021	74,303	1,178	2,302	86,696
Muzzle Loader	95,246	77,075	17,464	2,042	36,974
Pistol	69,889	411,032	--[d]	248,846	111,154

[a] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of Regions.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear and be counted in more than one group.

[c] Includes crow, woodchuck, raccoon, fox, coyote, and others.

[d] Dashes indicate that no person in the sample reported information on that item.

Table 145. Number of trips and days of participation in regions nation-wide, Region 6[a] angler groups defined by type of fishing, 1980.

Angler/segment[b]	Trips[c]	Days[c] Total	Days[c] Mean	No. of fishermen[c]
Region 1				
Great Lakes	--	--	--	--
Freshwater	337,410	563,386	1	71,408
Saltwater	78,007	120,235	1	42,181
Region 2				
Great Lakes	--	--	--	--
Freshwater	493,646	823,553	1	82,684
Saltwater	23,748	83,711	3	8,677
Region 3				
Great Lakes	26,015	216,178	1	18,675
Freshwater	1,045,359	1,984,684	1	226,298
Saltwater	--	--	--	--
Region 4				
Great Lakes	--	--	--	--
Freshwater	230,304	464,224	2	64,644
Saltwater	38,571	68,170	1	22,981
Region 5				
Great Lakes	5,152	5,152	1	1,806
Freshwater	69,228	89,861	1	17,815
Saltwater	19,926	33,435	1	11,049
Region 6				
Great Lakes	--	--	--	--
Freshwater	33,101,285	39,425,876	1	2,363,316
Saltwater	139	279	2	139
Region 7				
Great Lakes	--	--	--	--
Freshwater	8,084	28,325	3	3,181
Saltwater	3,962	14,594	3	2,226
Total Trips				
Great Lakes	31,000			20,000
Freshwater	35,285,000			2,829,000
Saltwater	164,000			[illegible]7,000

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[a] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[b] Angler segments defined by type of fishing. Groups are not mutually exclusive in that a fisherman could appear and be counted in more than one group. Inclusion in a segment and amount of participation are basedon information on fishing within the United States and in anglers five most often fished locations.

[c] Dashes indicate that no person in the sample reported information on this item

Table 116. Days of participation in regions nation-wide, Region 6[a] angler groups defined by species fished, 1980

	Region 1			Region 2			Region 3			Region 4		
	Number of	Days[c]		Number of	Days[c]		Number of	Days[c]		Number of	Days[c]	
Angler segment[b]	fishermen[c]	Total	Mean	fishermen[c]	Total	Mean	fishermen[c]	Total	Mean	fishermen[c]	Total	Mean
Bass	7,796	29,210	3	55,843	547,546	9	92,385	1,035,972	11	42,517	232,943	5
Panfish	7,120	41,177	5	32,815	469,869	14	109,163	1,081,097	9	25,681	221,392	8
Catfish	2,628	24,463	9	35,400	351,791	9	51,058	588,127	11	15,236	62,234	4
Walleye	646	4,052	6	2,788	23,852	8	95,035	872,247	9	8,964	69,721	7
Pike	--	--	--	1,389	9,778	7	80,320	697,439	8	1,414	7,074	5
Trout	63,910	511,356	8	9,151	69,885	7	41,473	200,045	4	17,639	81,297	4
Salmon	26,282	89,789	3	--	--	--	5,072	16,703	3	--	--	--
Rockfish	7,458	25,797	3	2,862	32,873	11	745	6,805	9	4,178	37,283	8

	Region 5			Region 6			Region 7			Total		
Region/	Number of	Days[c]		Number of	Days[c]		Number of	Days[c]		Number of	Days	
Angler segment[b]	fishermen[c]	Total	Mean	fishermen[c]	Total	Mean	fishermen[c]	Total	Mean	fishermen	Total	Mean
Bass	8,530	45,230	5	727,775	12,298,724	16	--	--	--	934,846	14,189,725	15
Panfish	8,790	33,675	3	716,790	11,692,354	16	--	--	--	900,359	13,539,564	15
Catfish	984	17,110	17	728,661	11,224,841	15	--	--	--	833,967	12,268,566	15
Walleye	1,673	1,673	1	527,122	7,302,358	13	593	4,154	7	636,821	8,283,057	13
Pike	1,781	10,171	5	316,052	4,969,148	15	--	--	--	400,916	5,693,610	14
Trout	7,422	31,175	4	1,308,925	17,742,942	13	2,203	10,756	4	1,450,723	18,647,456	13
Salmon	1,293	5,017	4	72,983	558,892	7	6,192	45,374	7	111,822	716,695	6
Rockfish	6,277	33,547	4	82,712	1,693,856	20	--	--	--	104,232	1,827,161	17

[a] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[b] Angler segments defined by type of fishing. Groups are not mutually exclusive in that a fisherman could appear and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on fishing within the United States and in anglers' five most often fished locations.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 17. Age of introduction[a] and years of fishing[b] for Region 6[c] angler groups defined by type of fishing and fish species, 1980.

Angler segment[d]	Age of introduction 01-12	 13-19	 20-29	 30-39	 40-98	Ave. age	Years fishing 01-09	 10-19	 20-98	Ave. years
	--------number of fishermen--------						---number of fishermen---			
Great Lakes	17,992	2,100	389	--	--	8.7	3,902	7,094	9,485	21.4
Freshwater	2,016,305	271,983	126,796	48,752	58,039	10.1	409,948	782,389	1,322,078	22.2
Saltwater	78,221	3,723	3,823	1,959	2,121	8.8	10,016	26,890	52,941	23.0
Bass	938,022	102,327	36,685	15,319	12,903	8.9	121,250	375,780	608,081	23.4
Pan fish	894,461	102,980	35,029	17,468	19,051	9.2	111,888	352,860	602,225	23.8
Catfish	703,257	96,682	39,876	18,550	21,904	9.8	134,454	310,328	525,839	23.2
Walleye	628,920	90,983	40,089	14,365	19,315	10.1	71,412	263,016	458,692	24.1
Pike	399,946	49,081	20,598	12,974	8,235	9.9	49,041	196,062	245,035	21.5
Trout	1,671,754	183,513	78,424	23,463	38,583	9.2	285,859	597,366	1,106,387	22.5
Salmon	112,697	9,463	3,170	503	3,643	9.2	18,657	29,626	81,193	25.4
Rock fish	96,594	10,357	8,554	152	4,147	9.8	9,519	44,158	66,137	23.9

[a] Introduction to fishing in general, not fishing a particular species or type of waters.

[b] Years spent fishing in general, not fishing a particular species or type of waters.

[c] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[d] Angler segments defined by type of fishing and species fished. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

Table 118. Locations most frequently fished by Region 6[a] angler groups defined by type of fishing, 1980.

Angler segment[b]	Freshwater				Saltwater		
	Large Res.	Small Res.	Lakes	Rivers/Str	Deep sea	Surf/Shore	Sounds
	Number of fishermen						
Freshwater	1,471,551	742,754	985,570	1,257,385			
Saltwater					68,432	45,860	27,932

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[a] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[b] Angler segments defined by type of fishing and species fished. Groups are not mutually exclusive in that an angler could appear in and be counted in more than one group.

Table 119. Expenditures, Region 6[a] angler groups defined by type of fishing, 1980.

	Expenses (in thousands of dollars)		
Angler segment[b]	Travel[c]	Equipment	Access related[d]
Great Lakes	367	NA	--[e]
Freshwater	397,320	90,179	8,071
Saltwater	7,282	1,484	1,662

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[a] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[b] Angler segments defined by type of fishing. Groups are not mutually exclusive in that an angler could appear in and be counted in more than one group.

[c] Includes food, lodging, and transportaion costs.

[d] Includes guide fees, pack trip or package fees, and public and private land use or access fees.

[e] Dashes indicate that no person in the sample reported information on this item.

Table 120. Days of participation, Region 6[a] specialty fishing anglers, 1980.

Angler segment[b]	In-state	Out-of-state	Total days	Number of anglers
Spear	17,587	18,258	35,845	11,000
Net	107,200	28,208	135,408	25,000
Ice	920,676	81,356	1,002,032	193,000
Bow	80,031	21,019	101,050	21,000
Gigging for frogs	31,938	9,353	41,291	18,000

[a] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[b] Angler segments defined by type of specialty fishing. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

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Table 121.Age of introduction[a] and years of fishing[b] for Region 6[c] angler groups defined by specialty fishing, 1980.

	Age of introduction[e]						Years of fishing			
Angler segment[d]	01-12	13-19	20-29	30-39	40-98	Ave. age	01-09	10-19	20-98	Ave. years
	-----number of anglers-----						---number of anglers---			
Spear	9,740	937	--	--	--	8.1	526	5,404	4,747	20.6
Net	21,673	3,339	--	--	--	7.0	1,924	15,604	7,484	16.7
Ice	164,407	18,927	5,465	1,394	2,932	9.1	21,479	59,499	111,726	23.6
Bow	19,929	1,420	--	--	--	6.7	1,344	12,982	7,023	19.8
Gigging for frogs	17,415	602	--	--	--	7.1	1,169	6,503	10,345	23.0

[a] Introduction to fishing in general, not fishing a particular species or type of waters.

[b] Years spent fishing in general, not fishing a particular species or type of waters.

[c] U.S. Fish and Wildlife Service Regions. States include: Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming. See Figure 1 for a map of regions.

[d] Angler segments defined by type of specialty fishing. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

[e] Dashes indicate that no person in the sample reported information on this item.

Appendix C: Montana Data

Table 259. Selected characteristics, Montana sportsmen and nonsportsmen, 1980.

Characteristic	Sportsmen[a] (percent)	Nonsportsmen[b] (percent)
Marital Status[c]		
Married	67.7	60.5
Widowed	2.2	9.6
Divorced	5.4	6.3
Separated	.8	.8
Never Married	23.8	22.8
Sex[d]		
Male	68.3	33.9
Female	31.7	66.1
Education[d]		
None	.2	.7
Kindergarten	[illegible]	.6
Elementary	22.3	22.5
High school	45.3	48.0
College	[illegible].8	28.2
Average age[d]	32.2 years	38.7 years
Population growing up[e]		
Large urban	4.2	5.3
Medium urban	12.6	10.9
Small city	18.8	18.5
Small town	26.3	25.5
Rural	38.0	39.9
Employed[e,f]		
Yes	65.5	45.2
No	34.5	54.8
Race[d]		
White	92.4	85.3
Black	.1	.1
American Indian, Aleut, Eskimo	7.4	14.0
Asian, Pacific Islander	.1	.4
Other	.1	.2
Site of residence[d]		
Urban	46.1	46.9
Rural	53.9	53.1
Average household size[d]	3.6 persons	3.4 persons

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[a] U.S. population age 6 years old and older who hunted or fished in 1980.

[b] U.S. population age 6 years old and older who did no hunting or fishing in 1980.

[c] Persons 14 years old and older.

[d] Persons 6 years old and older.

[e] Persons 16 years old and older.

[f] Defined as having a job or owning a business. Does not include persons who are retired, going to school, or keeping house.

Table 260. Participants, Montana hunter groups, 1980.

Groups	Total	Percent of state population[a]	Percent of state sportsmen[a]
Hunters by--			
Type of game[b]:			
Big game	143,400	25.0	56.3
Small game	54,400	9.5	21.4
Migratory birds	29,900	5.2	11.8
Other animals	30,100	5.2	11.8
Special weapon used:			
Bow and arrow	9,000	1.6	3.5
Muzzle loader[c]	1,300	.2	.4
Species pursued[d]:			
Deer hunters	133,400	23.3	52.5
Elk hunters	82,300	14.4	32.4
Grouse hunters	29,500	5.9	11.8
Pheasant hunters	34,400	5.2	13.3
Goose hunters	20,100	3.5	7.9
Duck hunters	27,400	4.7	10.6

[a] Population 16 years old and older. (Source: 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. U.S. Dept. of Interior, Fish and Wildlife Service and U.S. Dept. of Commerce, Bureau of Census. U.S. Govt. Printing Office, 1982.)

[b] Includes Montana residents who hunted in state of residence.

[c] Sample size 10 or less.

[d] Includes Montana residents who hunted for species in state of residence in at least one of hunters' five most often hunted places.

Table 261. Age of introduction to hunting[a], Montana hunters grouped by type of game hunted, 1980.

	Hunter segments[b]							
	Big game		Small game		Migratory birds		Other game[c]	
Beginning age	Number[d]	Percent[d]	Number[d]	Percent[d]	Number[d]	Percent[d]	Number[d]	Percent[d]
1-5 years	2,826	2.0	2,108	3.9	1,860	6.2	1,107	3.6
6-8 years	16,440	11.5	8,875	16.3	4,705	15.7	4,243	14.0
9-11 years	23,203	16.2	9,132	16.7	4,698	15.7	5,246	17.3
12-15 years	65,082	45.5	25,604	46.9	15,131	50.6	17,364	57.2
16-17 years	9,833	6.9	3,415	6.3	1,808	6.0	2,178	7.2
18-24 years	15,979	11.2	4,139	7.6	1,255	4.2	206	.7
25-34 years	7,325	5.1	1,339	2.5	446	1.5	---	---
35-44 years	1,159	.8	---	---	---	---	---	---
45-54 years	998	.7	---	---	---	---	---	---
55-64 years	337	.2	---	---	---	---	---	---
≥ 65 years	---	---	---	---	---	---	---	---

[a] Introduction to hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Montana residents who hunted in-state.

[c] Other animals include crow, woodchuck, raccoon, fox, coyote, and others.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 262. Years of hunting[a], Montana hunters grouped by type of game hunted, 1980.

Years of participation	Hunter segments[b]							
	Big game		Small game		Migratory birds		Other game[c]	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
0-2 years	9,144	6.4	3,979	7.3	876	3.0	1,523	5.0
3-5 years	15,279	10.7	4,199	7.7	2,351	8.0	2,110	7.0
6-8 years	14,466	10.1	5,798	10.7	3,524	11.9	3,197	10.5
9-11 years	16,050	11.3	6,279	11.5	4,804	16.3	5,557	18.3
12-15 years	18,083	12.7	8,069	14.8	5,256	17.8	4,338	14.3
16-17 years	4,069	2.9	1,234	2.3	236	.8	1,390	4.6
18-24 years	18,674	13.1	8,612	15.8	4,144	14.0	5,503	18.1
25-34 years	21,343	15.0	9,145	16.8	3,474	11.8	3,436	11.3
35-44 years	13,743	9.6	3,947	7.3	3,373	11.4	1,117	3.7
45-54 years	7,521	5.3	2,010	3.7	1,052	3.6	1,775	5.8
55-64 years	4,279	3.0	1,157	2.1	465	1.6	398	1.3
≥ 65 years	...[d]	...[d]	...[d]	...[d]	...[d]	...[d]	...[d]	...[d]

---

[a] Years of participation in hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Montana residents who hunted in-state.

[c] Other animals include crow, woodchuck, raccoon, fox, coyote, and others.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 263 Membership in organizations, Montana hunters grouped by type of game hunted, 1980.

Organization groups[b]	Hunters[a]							
	Big game		Small game		Migratory birds		Other game[c]	
	Number	Percent[d]	Number	Percent[d]	Number	Percent[d]	Number	Percent[d]
A	--[e]	--[e]	--[e]	--[e]	--[e]	--[e]	--[e]	--[e]
B	326	.2	752	1.4	326	1.1	142	.5
C	20,774	14.15	11,398	20.9	7,389	24.7	5,761	19.0
D	11,671	8.1	6,468	11.8	3,879	13.0	4,118	13.6
E	23,758	16.6	12,613	23.1	8,616	28.8	5,134	16.9
F	1,727	1.2	396	.7	396	1.3	--[e]	--[e]
No organization	110,830	77.3	38,195	69.9	18,687	62.5	22,417	73.9

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Montana residents who hunted in-state.

[b] Groups include: A-Defenders of Wildlife, Fund for Animals, Friends of Animals; B-Trout Unlimited, B.A.S.S.; C-Ducks Unlimited, National Rifle Association, Safari Club International; D-American Museum of Natural History, Nat'l. Geographic Society, Nature Conservancy, Sierra Club, Wilderness Society; E-American Birding Association, Izaak Walton League, Nat'l. Audubon Society, The Wildlife Society, World Wildlife Fund; and other organizations.

[c] Other game include crow, woodchuck, raccoon, fox, coyote, and others.

[d] Percents may total more than 100 due to membership in more than one organization.

[e] Dashes indicate that no person in the sample reported information on this item.

Table 264 Reasons for hunting[a], Montana hunters grouped by type of game hunted, 1980.

Most important and second most important reasons	Hunter[b]							
	Big game		Small game		Migratory birds		Other game[c]	
	Number[d]	Percent[d]	Number[d]	Percent[d]	Number[d]	Percent[d]	Number[d]	Percent[d]
Most important:								
Obtain meat	77,432	54.5	22,346	40.9	11,855	39.6	13,930	45.9
Problem animals	397	.3	426	.8	426	1.4	1,221	4.0
Be with family, friends	8,754	6.1	3,697	6.8	1,988	6.6	1,286	4.2
Sport, recreation	49,281	34.4	25,366	46.4	14,538	48.6	11,882	39.2
Be close to nature	3,841	2.7	1,429	2.6	1,095	3.7	1,423	4.7
Trophy	1,495	1.0	602	1.1	--	--	602	2.0
Other reasons	939	.7	747	1.4	--	--	--	--
Second most important:								
Obtain meat	34,862	24.6	14,832	27.4	8,612	28.8	6,602	21.8
Problem animals	4,037	2.8	1,587	2.9	1,447	4.8	2,076	6.9
Be with family, friends	19,629	13.8	6,869	12.7	3,416	11.4	1,909	6.4
Sport, recreation	50,137	35.4	15,955	29.4	8,789	29.4	10,613	35.5
Be close to nature	22,647	16.0	11,094	20.5	5,977	20.0	5,213	17.4
Trophy	4,235	3.0	2,309	4.3	694	2.3	2,148	7.2
Other reasons	--	--	--	--	--	--	--	--
No reason	6,176	4.3	1,551	2.9	967	3.2	1,368	4.5

[a] Reasons for hunting in general, not hunting for a particular type of game.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Montana residents who hunted in-state.

[c] Other animals include crow, woodchuck, coon, fox, coyote, and others.

[d] Dashes indicate that no person in the sample reported information on this item.

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Table 265. Days of hunting on public land[a], Montana hunters grouped by type of game hunted, 1980.

	Days by hunter segments[b]							
	Big game		Small game		Migratory birds		Other game[c]	
Public land ownership	Total	Mean	Total	Mean	Total	Mean	Total	Mean
Federal land	591,888	7.6	102,457	5.5	39,877	5.5	74,755	11.7
State wildlife area, refuge	27,343	4.7	8,489	3.0	18,955	3.5	1,915	10.0
Other state-owned areas	63,157	6.1	17,318	6.7	2,760	4.2	10,062	11.0
Locally owned	131,805	5.5	35,340	5.4	26,203	5.2	112,024	21.9
Unknown public ownership	62,536	5.2	10,520	5.9	12,812	4.7	5,273	5.1

[a] Only hunters who indicated they hunted on public land were included here.

[b] Hunter segments defined by type of fishing. Groups are not mutually exclusive in that a fisherman could appear in more than one group. Includes Montana residents who hunted in-state.

[c] Other animals include crow, woodchuck, raccoon, fox, coyote, and others.

Table 266. Hunting participation, by state wildlife management regions[a], Montana hunters grouped by type of game, 1980.

Hunters[b]	Days scouting Total[c]	Days scouting Mean[c]	Days hunting[e] Total	Days hunting[e] Mean	Hunting trips[e] Total	Hunting trips[e] Mean	No. of 1-day trips	Average miles from home[d]	Average hours per day hunting
Region 301									
Big game	28,619	4.6	232,727	8.4	192,613	7.0	171,080	82	6.2
Small game	3,226	6.1	49,519	5.2	45,353	4.7	42,396	30	4.1
Migratory birds	3,450	3.0	25,246	4.7	19,677	4.0	25,860	24	5.1
Other game[f]	424	7.0	14,375	6.6	11,490	5.3	10,247	115	3.7
Region 302									
Big game	7,370	2.7	100,008	7.2	75,879	5.4	60,011	96	7.9
Small game	--	--	16,136	4.2	14,693	3.8	13,689	31	5.0
Migratory birds	--	--	12,602	3.6	12,317	3.5	11,045	63	3.7
Other game[f]	--	--	4,536	5.6	4,141	5.1	3,633	139	2.4
Region 303									
Big game	93,324	8.4	334,028	7.9	286,746	6.8	238,241	60	7.2
Small game	10,692	8.6	73,833	5.9	75,778	6.1	72,175	31	4.5
Migratory birds	4,489	4.1	48,191	5.0	47,038	4.9	45,387	20	3.6
Other game[f]	11,3[illegible]5	8.9	117,029	13.3	97,794	11.1	78,222	39	4.0
Region 304									
Big game	129,527	15.2	253,776	6.1	184,467	4.5	134,894	104	6.7
Small game	5,240	4.8	114,954	6.7	93,430	5.4	80,921	76	5.1
Migratory birds	9,044	[illegible]	43,448	4.8	43,448	4.8	40,852	59	5.1
Other game[f]	24,1[illegible]	[illegible]1.3	212,586	15.9	257,375	22.8	254,525	58	3.9
Region 305									
Big game	3,767	1.9	44,107	3.4	31,162	2.4	19,486	92	7.2
Small game	8,530	20.0	35,304	5.5	33,117	5.2	29,635	87	5.5
Migratory birds	--	--	9,304	4.2	8,67[illegible]	4.0	8,445	37	4.3
Other game[f]	--	--	9,068	2.9	8,694	2.8	7,462	56	4.8

Table 266. Continued.

Hunters[b]	Days scouting		Days hunting[e]		Hunting trips[e]		No. of 1-day trips	Average miles from home[d]	Average hours per day hunting
	Total[c]	Mean[c]	Total	Mean	Total	Mean			
Region 306									
Big game	8,658	4.3	92,141	4.6	74,520	3.8	64,270	86	6.0
Small game	52,166	102.8	145,224	17.4	148,589	17.0	144,057	71	3.6
Migratory birds	592	3.0	21,946	7.7	82,565	26.4	81,729	170	3.9
Other game[f]	2,085	2.8	28,477	5.8	29,329	6.0	28,856	34	2.7
Region 307									
Big game	7,421	3.2	71,669	3.1	68,005	32.9	56,861	70	5.6
Small game	--	--	7,857	2.7	5,506	1.9	3,333	189	4.9
Migratory birds	--	--	394	1.0	394	1.0	--	300	4.0
Other game[f]	1,658	4.0	4,739	4.0	4,739	4.0	4,356	169	5.0

[a] Regional data may be based on a small number of observations. See Figure 6 for a map of state regions.

[b] Hunter segments defined by type of game. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Miles one-way from home to usual hunting place.

[e] Numbers differ slightly from those in the 1980 National Survey of Fishing, hunting, and Wildlife-Associated Recreation--Montana because of rounding.

[f] Other game include crow, woodchuck, raccoon, fox, coyote, and others.

Table 267. Travel-related expenses of Montana hunters grouped by type of game hunted, 1980.

(Totals in thousands of dollars)

	Hunter groups[a] and dollars spent							
	Big game		Small game		Migratory birds		Other game[b]	
Expenditure types	Total amount	Ave. per hunter	Total amount	Ave. per hunter	Total amount	Ave. per hunter	Total amount	Ave. per hunter
Food	5,837	40.60	915	16.51	549	18.02	323	10.59
Lodging	307	2.14	71	1.28	10	.32	--[c]	--[c]
Public transportation	354	2.46	92	1.66	--[c]	--[c]	--[c]	--[c]
Private transportation	10,100	70.04	2,208	39.86	932	30.58	814	26.65
Total travel-related expenses	16,400		3,272		1,449		1,073	
In-state travel-related expenses	15,300	106.37	2,994	54.06	1,302	42.71	916	29.98

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Only residents are included in these segments.

[b] Other game includes crow, woodchuck, raccoon, fox, coyote, and others.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 26B. Access-related expenses, Montana hunters grouped by type of game hunted, 1980.

(Totals in thousands of dollars)

	Hunter groups[a] and dollars spent							
	Big game		Small game		Migratory birds		Other game[b]	
Expenditure types	Total amount[c]	Ave. per hunter[c]	Total amount[c]	Ave. per hunter[c]	Total amount[c]	Ave. per hunter[c]	Total amount[c]	Ave. per hunter[c]
Guide fees	396	2.75	--	--	--	--	--	--
Pack trip or package fees	280	1.95	2	.04	--	--	--	--
Public land access or use fees	--	--	1	.02	--	--	--	--
Private land access or use fees	30	.19	<1	.01	18	.59	--	--
Equipment rental	7	.05	--	--	--	--	--	--
Total access-related expenses	713		4		18		--	
In-state access-related expenses	334	2.32	2	.04	17	.56	--	--

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Only residents are included in these segments.

[b] Other game includes crow, woodchuck, raccoon, fox, coyote, and others.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 269. Days of participation and deer hunting satisfaction, by state wildlife management regions, Montana hunters grouped by species hunted, 1980.

Region[a]/ Hunter segment[b]	Days of hunting		Deer hunting satisfaction[c]
	Total	Mean	
Region 301			
Deer hunters	201,458	8.4	4.3
Elk hunters	176,398	7.8	
Pheasant hunters	39,990	5.9	
Grouse hunters	14,533	3.8	
Goose hunters	19,773	5.7	
Duck hunters	24,879	4.7	
Region 302			
Deer hunters	73,623	5.9	4.8
Elk hunters	80,014	6.7	
Pheasant hunters	14,664	3.8	
Grouse hunters	2,048	2.7	
Goose hunters	6,691	3.5	
Duck hunters	12,228	3.9	
Region 303			
Deer hunters	258,326	7.2	5.6
Elk hunters	259,983	7.1	
Pheasant hunters	30,170	3.5	
Grouse hunters	10,623	3.2	
Goose hunters	18,960	4.2	
Duck hunters	44,971	5.2	
Region 304			
Deer hunters	199,859	5.6	6.4
Elk hunters	110,904	4.9	
Pheasant hunters	47,711	4.7	
Grouse hunters	63,989	5.7	
Goose hunters	35,000	4.7	
Duck hunters	40,559	4.6	

Table 269. Continued.

Region[a]/ Hunter segment[b]	Days of Hunting		Deer hunting satisfaction[c]
	Total	Mean	
Region 305			
Deer hunters	35,965	3.1	6.4
Elk hunters	16,884	4.9	
Pheasant hunters	8,856	2.4	
Grouse hunters	9,700	2.4	
Goose hunters	7,212	3.8	
Duck hunters	9,304	4.2	
Region 306			
Deer hunters	78,061	4.3	7.0
Elk hunters	9,273	3.2	
Pheasant hunters	124,889	33.0	
Grouse hunters	129,332	21.0	
Goose hunters	14,706	5.2	
Duck hunters	11,375	6.1	
Region 307			
Deer hunters	60,018	2.9	7.3
Elk hunters	172	1.0	
Pheasant hunters	1,666	3.0	
Grouse hunters	7,060	3.1	
Goose hunters	394	1.0	
Duck hunters	--[d]	--[d]	

[a] Regional data may be based on a small number of observations. See Figure 6 for a map of state regions.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Satisfaction ranking on a scale of 1 to 10, where 1 is low and 10 is high.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 27B. Age of introduction to hunting[a] by species hunted, Montana hunters, 1980.

Hunter segment[b]	Beginning age (years)									
	1-5		6-8		9-11		12-15		16-17	
	Number of hunters	Percent	Number of hunters	Percent	Number of hunters	Percent	Number of hunters	Percent	Number of hunters	Percent
Deer hunters	2,515	1.9	15,093	11.3	22,058	16.6	60,126	45.1	9,086	6.8
Elk hunters	2,108	2.6	9,496	11.5	10,100	12.3	43,934	53.5	6,292	7.7
Grouse hunters	1,660	4.8	6,355	18.5	4,596	13.3	18,343	53.3	2,261	6.6
Pheasant hunters	410	1.4	5,021	17.0	6,754	22.9	13,407	45.4	1,419	4.8
Goose hunters	1,476	7.2	3,179	15.5	2,896	14.1	10,823	52.8	654	3.2
Duck hunters	1,442	5.3	4,311	15.7	4,024	14.7	14,311	52.2	1,808	6.6

Hunter segment	18-24		25-34		35-44		45-54		55+	
	Number of hunters	Percent	Number of hunters	Percent	Number of hunters[c]	Percent[c]	Number of hunters[c]	Percent[c]	Number of hunters[c]	Percent[c]
Deer hunters	3,863	2.9	17,171	12.9	20,232	15.2	11,886	8.9	10,363	7.8
Elk hunters	7,414	9.0	2,414	2.9	---	---	---	---	337	.4
Grouse hunters	889	2.6	299	.9	---	---	---	---	---	---
Pheasant hunters	2,064	7.0	446	1.5	---	---	---	---	---	---
Goose hunters	1,036	5.1	446	2.2	---	---	---	---	---	---
Duck hunters	1,057	3.9	446	1.6	---	---	---	---	---	---

[a] Introduction to hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 271. Years of hunting[a], by species hunted, Montana hunters, 1980.

Hunter segment[b]	Years of participation											
	1-2		3-5		6-8		9-11		12-15		16-17	
	Number of hunters	Percent	Number of hunters	Percent	Number of hunters	Percent	Number of hunters	Percent	Number of hunters	Percent	Number of hunters	Percent
Deer hunters	8,397	6.3	14,368	10.8	13,799	10.4	14,703	11.1	18,083	13.6	3,863	2.9
Elk hunters	3,816	4.7	7,491	9.2	7,070	8.7	9,826	12.0	10,734	13.2	3,085	3.8
Grouse hunters	2,242	6.5	2,054	6.0	3,319	9.6	4,739	13.8	4,219	12.3	832	2.4
Pheasant hunters	1,552	5.3	2,380	8.1	3,002	10.2	1,821	6.2	5,149	17.6	460	1.6
Goose hunters	876	4.3	1,015	4.9	2,051	10.0	3,796	18.5	3,503	17.1	236	1.1
Duck hunters	876	3.2	2,351	8.6	3,150	11.6	4,804	17.8	4,808	17.5	236	.9

Hunter segment[b]	18-24		25-34		35-44		45-54		55-64		65+	
	Number of hunters	Percent	Number of hunters	Percent	Number of hunters	Percent	Number of hunters	Percent	Number of hunters[c]	Percent[c]	Number of hunters[c]	Percent[c]
Deer hunters	17,171	12.9	20,212	15.2	11,886	8.9	6,279	4.7	4,084	3.1	---	---
Elk hunters	12,522	15.4	11,938	14.6	9,127	11.1	4,259	5.2	1,695	2.1	---	---
Grouse hunters	7,610	22.1	4,965	14.4	2,301	6.7	1,299	3.8	819	2.4	---	---
Pheasant hunters	5,973	20.4	5,544	18.9	1,763	6.0	1,142	3.9	532	1.8	---	---
Goose hunters	3,081	15.0	3,126	15.2	1,976	9.6	851	4.2	---	---	---	---
Duck hunters	3,535	13.1	2,794	10.3	3,373	12.5	658	2.4	465	1.7	---	---

[a] Years of participation in hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

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Table 272. Most important reason for hunting,[a] Montana hunters grouped by species hunted, 1980.

Hunter segment[b]	Obtain meat		Problem animals		Be with family, friends		Sport Recreation	
	Number	Percent	Number[c]	Percent[c]	Number	Percent	Number	Percent
Deer hunters	73,409	55.6	---	---	8,240	6.2	44,971	34.0
Elk hunters	42,626	51.9	---	---	4,692	5.7	29,675	36.1
Grouse hunters	14,355	41.7	426	1.2	2,143	6.2	15,289	44.4
Pheasant hunters	11,293	38.3	---	---	973	3.3	15,505	52.6
Goose hunters	6,146	30.0	426	2.1	1,699	8.3	11,724	57.2
Duck hunters	11,482	41.9	426	1.6	1,380	5.0	13,016	47.5

Hunter segment[b]	Be close to nature		Trophy		Other reasons	
	Number	Percent	Number[c]	Percent[c]	Number[c]	Percent[c]
Deer hunters	3,841	2.9	1,495	1.1	192	.1
Elk hunters	3,841	4.7	320	.4	939	1.1
Grouse hunters	838	2.4	602	1.7	747	2.2
Pheasant hunters	1,129	3.8	602	2.0	---	---
Goose hunters	516	2.5	---	---	---	---
Duck hunters	1,095	4.0	---	---	---	---

[a] Reasons for hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 273. Second most important reason for hunting[a] Montana hunters grouped by species hunted, 1980.

Hunter segment[b]	Second most important reason							
	Obtain meat		Problem animals		Be with family, friends		Sport, recreation	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Deer hunters	31,432	23.9	4,037	3.1	17,905	13.6	47,271	35.9
Elk hunters	19,312	23.6	999	1.2	9,878	12.1	28,959	35.5
Grouse hunters	10,936	31.8	626	1.8	4,277	12.6	9,954	29.3
Pheasant hunters	9,025	31.0	999	3.4	1,629	5.6	8,153	28.0
Goose hunters	6,830	33.3	192	.9	2,662	13.0	5,609	27.3
Duck hunters	7,682	28.0	1,447	5.3	3,219	11.7	7,998	29.2

Hunter segment[b]	Be close to nature		Trophy		Other reasons		No reason	
	Number	Percent	Number	Percent	Number[c]	Percent[c]	Number	Percent
Deer hunters	20,675	15.7	4,235	3.2	---	---	6,176	4.7
Elk hunters	17,534	21.5	2,070	2.5	---	---	2,927	3.6
Grouse hunters	5,850	17.2	790	2.3	---	---	1,551	4.5
Pheasant hunters	6,853	23.6	1,807	6.2	---	---	620	2.1
Goose hunters	4,418	21.5	481	2.3	---	---	310	1.5
Duck hunters	5,392	19.7	694	2.5	---	---	967	3.5

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[a] Reasons for hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 274. Days of hunting and expenditures for equipment, Montana special weapon hunters, 1980.

	Hunters[a]			
	Bow and arrow		Muzzle loader[b]	
Type of game pursued	Total days[c]	Mean[c]	Total days[c]	Mean[c]
Big game	55,600	6.4	2,200	2.0
Small game	5,900	4.6	---	---
Migratory birds	---	---	---	---
Other animals	1,100	5.0	---	---
Days hunted in-state	62,600	7.2	2,200	2.0
Days hunted out-of-state	---	---	---	---
Total days	62,600		2,200	
Proportion of total hunting days[d]	3.2%		.1%	
Expenditures for special equipment	$546,200		[e]	

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[a] Hunter segments defined by special weapon used. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Montana residents who hunted in-state.

[b] Sample size 10 or less.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Source: 1980 Survey of Fishing, Hunting, and Wildlife--Associated Recreation. U.S. Dept. of Interior, Fish and Wildlife Service and U.S. Dept. of Commerce, Bureau of Census. U.S. Govt. Printing Office, 1982.

[e] Information not available.

Table 275. Age of introduction to hunting[a] and years of participation[b], Montana special weapon hunters, 1980.

Age and years of participation	Hunters[c]			
	Bow and arrow		Muzzle loader[d]	
	Number[e]	Percent[e]	Number[e]	Percent[e]
Beginning age:				
1-5 years	1,035	11.5	---	---
6-8 years	2,443	27.0	373	29.8
9-11 years	1,018	11.3	186	14.9
12-15 years	4,250	47.0	695	55.4
16-17 years	289	3.2	---	---
18-24 years	---	---	---	---
25-34 years	---	---	---	---
34-44 years	---	---	---	---
45-54 years	---	---	---	---
55-64 years	---	---	---	---
65+ years	---	---	---	---
Years of participation:				
1-2 years	---	---	---	---
3-5 years	---	---	---	---
6-8 years	1,471	16.3	281	22.4
9-11 years	434	4.8	174	13.8
12-15 years	804	8.9	---	---
16-17 years	1,459	16.1	---	---
18-24 years	2,911	32.2	413	32.9
25-34 years	1,177	13.0	386	30.8
35-44 years	597	6.6	---	---
45-54 years	181	2.0	---	---
55-64 years	---	---	---	---
65+ years	---	---	---	---

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[a] Introduction to hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Years of participation in hunting in general, not hunting a particular species, game type, or using special weapons.

[c] Hunter segments defined by special weapons used. A hunter could appear in more than one group.

[d] Sample size of 10 or less.

[e] Dashes indicate that no person in the sample reported information on this item.

Table 276. Membership in organizations, Montana special weapon hunters, 1980.

	Hunters[a]			
	Bow and arrow		Muzzle loader[b]	
Organization groups[c]	Number[d]	Percent[d]	Number[d]	Percent[d]
A	---	---	---	---
B	142	1.6	---	---
C	2,745	30.4	800	63.7
D	2,173	24.1	200	15.9
E	2,419	26.8	600	47.8
F	396	4.4	---	---
No organization	4,747	52.5	455	36.3

[a] Hunter segments defined by special weapon used. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Montana residents who used these weapons.

[b] Sample size 10 or less.

[c] Groups include: A - Defenders of Wildlife, Fund for Animals, Friends of Animals; B - Trout Unlimited, B.A.S.S.; C - Ducks Unlimited, National Rifle Association, Safari Club International; D - American Museum of Natural History, National Geographic Society, Nature Conservancy, Sierra Club, Wilderness Society; E - American Birding Association, Izaak Walton League, National Audubon Society, The Wildlife Society, World Wildlife Fund.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 277. Reasons for hunting[a], Montana special weapon hunters, 1980.

Most important and second most important reasons	Hunters[b]			
	Bow and arrow		Muzzle loader[c]	
	Number[d]	Percent[d]	Number[d]	Percent[d]
Most important:				
Obtain meat	4,191	46.4	560	44.6
Problem animals	---	---	---	---
Be with family, friends	894	9.9	---	---
Sport, recreation	2,514	27.8	---	---
Be close to nature	1,154	12.8	413	32.9
Trophy	281	3.1	281	22.4
Other reasons	---	---	---	---
Second most important:				
Obtain meat	2,419	26.8	695	55.4
Problem animals	---	---	---	---
Be with family, friends	437	4.8	---	---
Sport, recreation	2,982	33.0	560	44.6
Be close to nature	2,619	29.0	---	---
Trophy	577	6.4	---	---
Other reasons	---	---	---	---

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[a] Reasons for hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by special weapon used. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Montana residents who used these weapons.

[c] Sample size 10 or less.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 27B. Participants, Montana angler groups, 1980.

Groups	Total	Percent of state population[a]	Percent of state sportsmen[a]
Fishermen by--			
Type of fishing:			
Freshwater[b]	198,800	34.6	78.3
Fishing location[c]:			
Large reservoir	95,600		
Small reservoir	39,100		
Natural lakes, ponds	82,300		
Rivers and streams	145,000		
Specialty fishing:			
Ice fishermen	33,700	5.9	13.3
Species fished[d]:			
Trout	174,300	30.4	68.6

[a] Population 16 years old and older. (Source: 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. U.S. Dept. of Interior, Fish and Wildlife Service and U.S. Dept. of Commerce, Bureau of Census. U.S. Govt. Printing Office, 1982.)

[b] Includes Montana residents who fished freshwater in state of residence.

[c] Includes Montana residents who fished these locations.

[d] Includes Montana residents who fished for species in state of residence in at least one of anglers' five most often fished places.

Table 279. Age of introduction to fishing[a] and years of participation[b] Montana freshwater fishermen[c], 1980.

Age and years of participation	Number of fishermen	Percent
Beginning age:		
1-5 years	53,568	27.1
6-8 years	60,149	30.5
9-11 years	31,643	16.0
12-15 years	27,082	13.7
16-17 years	2,449	1.2
18-24 years	10,510	5.3
25-34 years	5,969	3.0
35-44 years	2,342	1.2
45-54 years	1,855	.9
55-64 years	1,867	.9
65+ years	---[d]	---[d]
Years of fishing:		
1-2 years	4,714	2.4
3-5 years	14,910	7.6
6-8 years	10,046	5.1
9-11 years	14,824	7.5
12-15 years	29,647	15.1
16-17 years	4,869	2.5
18-24 years	32,960	16.8
25-34 years	41,655	21.2
35-44 years	19,756	10.0
45-54 years	10,404	5.3
55-64 years	9,926	5.0
65+ years	2,960	1.5

[a] Introduction to fishing in general, not a particular type of fishing.

[b] Years of participation in fishing in general, not in a particular type of fishing.

[c] Includes Montana residents who fished freshwater in state of residence.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 280. Membership in organizations, Montana freshwater fishermen, 1980.

Organization groups[a]	Fishermen[b]	
	Number	Percent[c]
A	184	.1
B	1,716	.9
C	20,296	10.2
D	21,450	10.8
E	30,250	15.2
F	1,429	.7
No organization	155,605	78.1

[a] Groups include: A-Defenders of Wildlife, Fund for Animals, Friends of Animals; B-Trout Unlimited, B.A.S.S.; C-Ducks Unlimited, Nat'l. Rifle Association, Safari Club International; D-American Museum of Natural History, Nat'l. Geographic Society, Nature Conservancy, Sierra Club, Wilderness Society; E-American Birding Association, Izaak Walton League, Nat'l. Audubon Society, Nat'l. Wildlife Federation, the Wilderness Society, Nat'l. Wildlife Federation, The Wilderness Society, World Wildlife Fund; and F-Other organizations.

[b] Includes Montana residents who fished freshwater in state of residence.

[c] Includes membership in more than one organization.

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Table 281. Other locations fished by Montana fishermen grouped by fishing location, 1980.

Anglers[a]	Fishing locations[b]			
	Large reservoirs	Small reservoirs	Natural Lakes/ ponds	Rivers and streams
	number of fishermen			
Large reservoir (10+ acres)		16,992 (17.8%)	30,684 (32.1%)	60,571 (63.3%)
Small reservoir (<10 acres)	16,992 (43.4%)		18,118 (46.3%)	26,869 (68.7%)
Natural lake, pond	30,684 (37.3%)	18,118 (22.0%)		64,244 (78.1%)
River and stream	60,571 (41.8%)	26,869 (18.5%)	64,244 (44.3%)	

[a] Angler segments defined by fishing location. Groups are not mutually exclusive in that a fisherman could appear in more than one group. Only residents are included in these segments.

[b] These fishing locations may or may not have been located in an angler's state of residence.

Table 282. Fishing participation, by state wildlife management regions, Montana freshwater fishermen[a], 1980

Wildlife management region[b]	Fishing trips[d] Total	Fishing trips[d] Mean	Days fishing[d] Total	Days fishing[d] Mean	No. of 1-day trips	Average miles from home[c]	Average hours per fishing
301	771,300	16	712,800	18	661,596	109	4.6
302	181,406	6	215,500	7	143,277	65	4.6
303	883,400	14	993,800	15	747,377	80	4.3
304	581,603	9	723,000	11	471,217	84	5.0
305	220,194	9	260,500	10	179,192	98	4.2
306	199,500	11	202,000	11	177,080	44	4.7
307	132,583	7	142,100	8	113,689	39	5.1

[a] Includes Montana residents who fished freshwater in state of residence in at least one of anglers' five most often fished locations.

[b] Regional data may be based on a small number of observations. See figure 6 for a map of state regions.

[c] Miles one-way from home to usual fishing place.

[d] Numbers differ slightly from those in the 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation--Montana because of rounding.

Table 283. Expenditures, Montana freshwater Fishermen[a], 1980.

Expenditure types	Expenses	
	Total (dollars)	Average per fishermen (dollars)
Guide fees	68,700	.34
Pack trip or package fees	37,700	.18
Public land access or use fees	23,900	.12
Private land access or use fees	36,400	.18
Boat launching fees	32,000	.16
Equipment rental fee	59,300	.29
Total access-related expenses	258,000	
In-state access-related expenses	215,100	1.06
Total travel-related expenses[b]	28,644,000	
In-state travel-related expenses	24,393,000	119.58

[a] Includes Montana residents who fished freshwater in state of residence.

[b] Includes food, transportation, and lodging expenses.

Table 284. Days of participation, by state wildlife management regions, Montana trout fishermen[a], 1980.

Wildlife management regions[b]	Days fishing	
	Total	Mean
301	772,444	18.5
302	208,116	7.3
303	972,070	15.4
304	648,378	10.5
305	238,837	11.2
306	93,977	6.9
307	52,020	10.5

[a] Inclusion in this group is based on resident in-state fishing in at least one of anglers' five most often fished places.

[b] Regional data may be based on a small number of observations. See Figure 6 for a map of state regions.

Table 285. Age of introduction to fishing[a] and years of participation[b], Montana trout fishermen, 1980.

Age and years of participation	Number of fishermen	Percent
Beginning age:		
1-5 years	48,931	28.3
6-8 years	51,943	30.1
9-11 years	28,455	16.5
12-15 years	20,901	12.1
16-17 years	2,449	1.4
18-24 years	9,476	5.5
25-34 years	4,877	2.8
35-44 years	2,342	1.4
45-54 years	1,389	.8
55-64 years	1,867	1.1
65+ years	---[c]	---[c]
Years of participation:		
1-2 years	3,680	2.1
3-5 years	13,137	7.6
6-8 years	7,967	4.6
9-11 years	11,869	6.9
12-15 years	25,303	14.7
16-17 years	4,869	2.8
18-24 years	32,150	18.7
25-34 years	36,385	21.2
35-44 years	15,307	8.9
45-54 years	10,404	6.1
55-64 years	8,811	5.1
65+ years	1,987	1.2

---

[a] Introduction to fishing in general, not fishing a particular species, fishing type, or method.

[b] Years of participation in fishing in general, not fishing a particular species, fishing type, or method.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 26b Number of participants, days of fishing, and expenditures for special equipment, Montana ice fishermen, 1980.

		Days fishing			
	Number of participants	In-state	Out-of-state	Total	Expenditures for special equipment
Ice fishermen	33,700	165,400	3,100	168,500	$249,100

[a] Approximately 4 percent of Montana resident fishing days (Source: 1980 National Survey of Fishing, Hunting, and Wildlife-associated Recreation, U.S. Dept. of the Interior, Fish and Wildlife Service and U.S. Dept. of Commerce, Bureau of the Census. U.S. Gov't. Printing Office, 1982.

Table 287. Age of introduction to fishing and years of participation, Montana ice fishermen, 1980.

Age and years of participation	Percent of ice fishermen[a]
Beginning age:	
1-5 years	36.8
6-8 years	29.7
9-11 years	11.3
12-15 years	17.9
16-17 years	2.7
18-24 years	.5
25-34 years	--
35-44 years	--
45-54 years	1.1
55-64 years	--
65+ years	--
Years of participation:	
1-2 years	1.1
3-5 years	6.3
6-8 years	5.4
9-11 years	9.4
12-15 years	13.8
16-17 years	.5
18-24 years	22.6
25-34 years	16.3
35-44 years	10.1
45-54 years	8.9
55-65 years	4.3
65+ years	1.2

[a] Dashes indicate that no person in the sample reported information on this item.

Table 288. Membership in organizations, Montana ice fishermen, 1980.

Organization groups[a]	Percent of ice fishermen[b]
A	.5
B	.5
C	19.1
D	16.6
E	16.5
F	1.6
No organization	68.6

[a] Groups include: A-Defenders of Wildlife, Fund for Animals, Friends of Animals; B-Trout Unlimited, B.A.S.S.; C-Ducks Unlimited, Nat'l Rifle Association, Safari Club International; D-American Museum of Natural History, Nat'l. Geographic Society, Nature Conservancy, Sierra Club, Wilderness Society; E-American Birding Association, Izaak Walton League, Nat'l. Audubon Society, Nat'l. Wildlife Federation, The Wildlife Society, World Wildlife Fund; and F-Other organizations.

[b] May total more than 100 percent due to membership in more than one organization.

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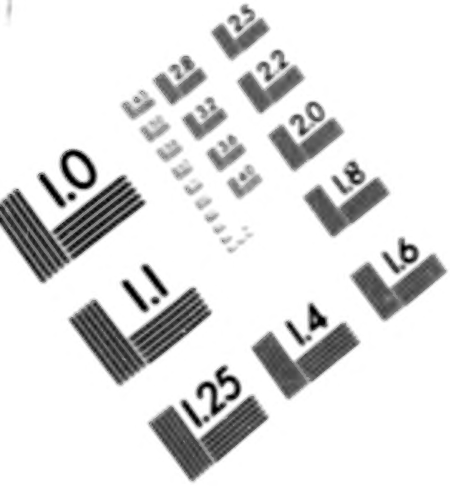

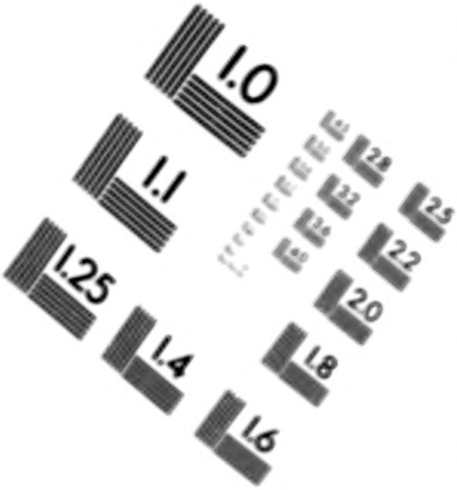

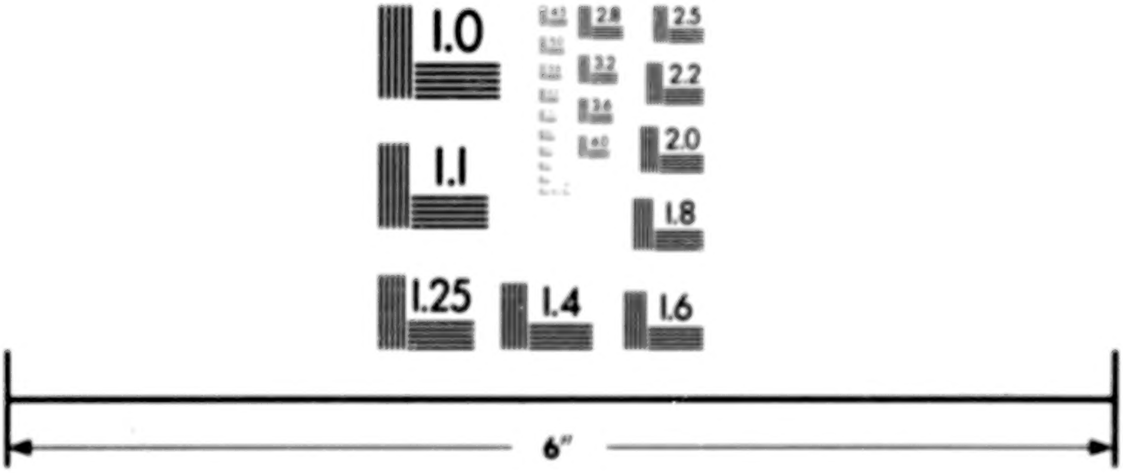

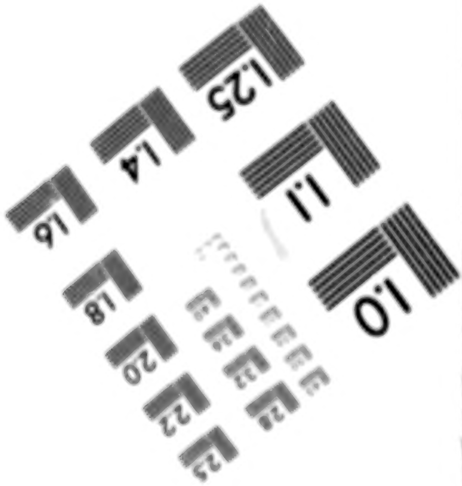

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